ФЕДЕРАЛЬНОЕ АГЕНТСТВО ЖЕЛЕЗНОДОРОЖНОГО ТРАНСПОРТА

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МЕТОДИЧЕСКАЯ РАЗРАБОТКА ПО УЧЕБНОЙ ДИСЦИПЛИНЕ

ОГСЭ.03 ИНОСТРАННЫЙ ЯЗЫК

для специальности

09.02.04 Информационные системы (по отраслям)

для обучающихся очной формы обучения

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Методическая разработка по учебной дисциплине ОГСЭ.03 «Иностранный язык» разработана на основе Федерального государственного образовательного стандарта (далее — ФГОС) по специальности 09.02.04 Информационные системы (по отраслям), утвержденного приказом Министерства образования и науки Российской Федерации 14 мая 2014 г. N525 и в соответствии с рабочей программой.

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Составитель О.С. Михальская

СОДЕРЖАНИЕ

1.ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Методическая разработка по учебной дисциплине ОГСЭ.03 Иностранный язык составлена на основе требований ФГОС и рабочей программе курса и предназначены для студентов техникума по специальности 09.02.04 Информационные системы (по отраслям). В ней подобраны дидактические материалы, направленные на изучение профессионально- ориентированного иностранного языка. К каждому тексту по специальности разработаны упражнения для расширения лексического вокабуляра и умению применять его на практике. Так же, в дополнении приложены тексты для навыков устного и письменного перевода и дополнительные задания, для практических работ.

В результате освоения учебной дисциплины обучающийся должен ***уметь****:*

– общаться (устно и письменно) на иностранном языке на профессиональные и повседневные темы;

– переводить (со словарем) иностранные тексты профессиональной направленности;

– самостоятельно совершенствовать устную и письменную речь, пополнять словарный запас.

В результате освоения учебной дисциплины обучающийся должен **знать**:

– лексический (1200-1400 лексических единиц) и грамматический минимум, необходимый для чтения и перевода со словарем) иностранных текстов профессиональной направленности.

Данная методическая разработка направлена на формирование умений и знаний, а также общих компетенций, включающих в себя способность:

- понимать сущность и социальную значимость своей будущей профессии, проявлять к ней устойчивость и интерес (ОК 1);.

- организовывать собственную деятельность, определять методы и способы выполнения профессиональных задач, оценивать их эффективность и качество (ОК 2);

- принимать решения в стандартных и нестандартных ситуациях и нести за них ответственность (ОК 3);

- осуществлять поиск и использование информации, необходимой для эффективного выполнения профессиональных задач, профессионального и личностного развития (ОК 4);

- использовать информационно-коммуникационные технологии в профессиональной деятельности (ОК 5);

- работать в коллективе и в команде, эффективно общаться с коллегами, руководством, потребителями (ОК 6);

- брать на себя ответственность за работу членов команды (подчиненных), за результат выполнения заданий (ОК 7);

- самостоятельно определять задачи профессионального и личностного развития, заниматься самообразованием, осознанно планировать повышение квалификации (ОК 8);
- ориентироваться в условиях частой смены технологий в профессиональной деятельности (ОК 9).

2. ДИДАКТИЧЕСКИЕ МАТЕРИАЛЫ

2.1. What is a Computer?

Task 1. Read and translate the text:

Computers are electronic machines which can accept data in a certain form, process the data and give the results of processing in a specified format as information.

Three basic steps are involved in the process: First, data is fed into the computer's memory. Then, when the program is run, the computer performs a set of instructions and processes the data. Finally, we can see the results (the output) on the screen or in printed form.

Information in the form of data and program is known as **software**, and the electronic and mechanical parts that make up a computer system are called **hardware**. A standard computer system consists of three main sections: the Central Processing Unit (CPU), the main memory and the peripherals.

Perhaps the most influential component is **the Central Processing Unit**. It is to execute program functions and to coordinate the activities of all the other units. In a way, it is the 'brain' of the computer. **The main memory** holds the instructions and data which are currently being processed by the CPU. **The peripherals** are the physical units attached to the computer. They include storage devices and input/ output devices.

Storage devices (hard disks, CDs, USB flash drive) provide a permanent storage of both data and programs. Input devices enable data to go into the computer's memory. The most common input devices are **scanner, microphone** and **keyboard**. Output devices enable us to extract the finished product from the system. For example, the computer shows the output on the **monitor** or **prints** the results onto paper by means of a printer.

On the rear panel of the computer there are several ports into which we can plug a wide range of peripherals – modems, fax machines, optical drives and scanners. These are the main physical units of a computer system, generally known as the **configuration**.

Task 2. Match the items in the box with the appropriate explanation or definition below:

a) software b) output c) peripheral devices d) hardware e) Central	1. The brain of the computer. 2. Physical parts that make up a computer system. 3. Programs which can be used on particular computer system. 4. The information which is presented to the computer. 5. Results produced by a computer.

Processing Unit f) monitor g) input h) port	6. Hardware equipment attached to the CPU. 7. Visual display unit. 8. Any socket or channel in a computer system into which an input/output device may be connected.

Task 3. Read and translate words paying attention on suffixes:

1. Computer- compute- computing- computed
2. Operate- operation- operating- operator- operated
3. Storing- store- stored
4. Processing- process- processor- processed
5. Communicating- communication- communicate- communicator

Task 4. Chose the correct translation:

to invent
a) умножать b) вычислять c) конструировать d) изобретать
to save
a) сохранять b) перемещать c) вычитать d) прибавлять
to calculate
a) прибавлять b) вычислять c) умножать d) сохранять
dependence
a) умножение b) вычисление c) зависимость d) развитие
provide
a) перемещать b) завершать c) обеспечивать d) изобретать

Task 5. Answer the questions:

1. What is a computer?
2. What parts does a computer system make up?
3. List all main parts in a computer.
4. What is hardware?
5. What is software?
6. Why is the central processor called “a brain of a computer”?
7. What do we use to input data?
8. Are there any spheres nowadays where computer does not use?
9. How often do you use computer in your daily living?

2. 2. Kinds of Computer

Task 1. Read and translate the text:

Digital computers can be divided into five main types, depending on their size and power: they are mainframes, minicomputers, desktop PCs, laptops and handheld computers.

‘Mainframes’ are the largest and most powerful computers. The basic configuration of a mainframe consists of a central system which processes immense amounts of data very quickly. This central system provides data information and computing facilities for hundreds of terminals connected together in a network. Mainframes are used by large companies, factories and universities.

‘Minicomputers’ are smaller and less powerful than mainframes. They can handle multi-tasking, that is, they can perform more than one task at the same time. Minicomputers are mainly used as file servers for terminals. Typical applications include academic computing, software engineering and other sophisticated applications in which many users share resources.

PCs carry out their processing on a single microchip. They are used as personal computers in the home or as workstations for a group. Typical examples are the IBM PC, or the Apple Macintosh. Broadly speaking, there are two classes of personal computer: (a) desktop PCs, which are designed to be placed on your desk, and (b) portable PCs, which can be used as a tiny notebook. This is why they are called ‘notebooks’ or ‘laptops’. The latest models can run as fast as similar desktops and have similar configurations. They are ideal for business executives who travel a lot.

The smallest computers can be held in one hand. They are called handheld computers or palmtops. They are used as PC companions or as electronic organizers for storing notes, reminders and addresses.

Task 2. Work in pairs; decide what sort of computer is best for each of these users:

1. John Wilmot is a salesperson and he spends a lot of time visiting customers. He wants a computer to carry with him so he can access data about his customers and record his sales.
2. Pat Nye is a personnel officer. She needs a computer to keep staff records and to keep a diary of appointments. She also needs a computer for writing letters.

3. The University of the North needs a computer to look after its accounts, its network, the records of all students and staff, and to help with scientific research.
4. The James's family wants a computer for entertainment, writing letters, the Internet, and for calculating tax.

Task 3. Choose the correct adjective. Then fill in the gaps with the correct form of the adjective:

1. Laptops are … (light) than desktop computers, but … (heavy) than notebooks.
2. The mainframe is the … (large) type of computer. A minicomputer is … (small) than a microcomputer.
3. Personal computers are … (common) than mainframes but mainframes are … (good) than personal computers at processing very large amounts of data.
4. Minicomputers are … (powerful) than mainframes but they are also … (expensive).
5. New computers are … (fast) and sometimes … (cheap) than older machines.
6. Laptops are often … (powerful) than PCs but they are not as … (expensive).

Task 4. Match the words with their definitions:

According to custom fit share palmtop network mainframe laptop multitasking customize	a) the largest and most powerful type of computer b) a way of behaving which a particular group or society has had for a long time c) a small portable computer that can be held in one hand d) to divide smth between two or more people e) to change a system so that it works in the way the user wants f) the largest type of portable computer g) in a way that matches, follows or depends on smth h) the ability of a computer to work on more than one task at the same time i) a number of computers and other devices that are connected together so that equipment and information

	can be shared j) be the right size or shape for smb/smth

Task 5. Which of the following is:

Mainframes; Minicomputers; Microcomputers or Personal computers (PCs); Laptop; Notebook; Subnotebook; Handheld or Palmtop

1. About the size of a small typewriter. Less common now because smaller and lighter portables are available.
2. Not quite as big as notebooks. Can fit into a jacket pocket.
3. Used like mainframes. Not as big, powerful, or expensive as mainframes. Less common now because microcomputers have improved.
4. Small enough to fit into the palm of one hand. Not easy to type with because of their size. Specialized handheld computers known as PDAs are used as personal organizers.
5. The most common type of computer. Smaller, cheaper, and less powerful than mainframes and minicomputers.
6. Large, powerful, expensive. Multi-user systems – used by many people at the same time. Used for processing very large amounts of data. The most powerful mainframes are called supercomputers.
7. About the size of a piece of writing paper. The most common type of portable.

Task 6. Put the words in brackets into the correct form to make an accurate description of sizes of computers:

There are different types of computer. The (large) … and (powerful) … are mainframe computers. Minicomputers are (small) … than mainframes but are still very powerful. Microcomputers are small enough to sit on a desk. They are the (common) …type of computer. They are usually (powerful) … than minicomputers.

Portable computers are (small) … than desktops. The (large) … portable is a laptop. (Small) … portables, about the size of a piece of writing paper, are called notebook computers. Subnotebooks are (small) … than notebooks. You can hold the (small) … computers in one hand. They are called handheld computers or palmtop computers.

Task 7. Chose the correct translation:

pocket

a) ежедневник b) карман c) свет d) исследование

heavy

a) подходящий b) единственный c) тяжелый d) легкий

research

a) исследование b) ежедневник c) запись d) мощность

suitable

a) единственный b) широкий c) подходящий d) единственный

diary

a) ежедневник b) карман c) исследование d) стоимость

single

a) подходящий b) единственный c) легкий d) мощный

to improve

a) стоить b) исследовать c) выполнять d) улучшать

light

a) легкий b) единственный c) подходящий d) мощный

to appoint

a) подходить b) назначать c) стоить d) продавать

to carry out

a) назначать b) исследовать c) выполнять d) нести

2.3. Hardware

Task 1. Read and translate the text:

What is hardware? Webster's dictionary gives us the following definition of the hardware — the mechanical, magnetic, electronic, and electrical devices composing a computer system.

Computer hardware can be divided into four categories:

1) input hardware
2) processing hardware
3) storage hardware
4) output hardware.

Input hardware

The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. It looks like a typewriter. The mouse is a hand held device connected to the computer usually by small cable. As the mouse is rolled across the mouse pad, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

The light pen uses a light sensitive photoelectric cell to signal screen position to the computer. An optic-electronic scanner is used to input graphics as well as typeset characters. Microphone and video camera can be also used to input data into the computer.

Processing hardware

The purpose of processing hardware is retrieve, interpret and direct the execution of software instructions provided to the computer. The most common components of processing hardware are the Central Processing Unit and main memory.

The Central Processing Unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Memory is the system of component of the computer in which information is stored. There are two types of computer memory: RAM and ROM.

RAM (random access memory) is the volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data;

ROM (read only memory) is nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform.

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. The most common ways of storing data are Hard disk, CD-ROM and USB flash drive.
Hard disk is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized read-only data can be stored. CD-ROMs are not very popular now.

USB flash drive, also known as a thumb drive, pen drive, gig stick, flash stick, jump drive, disk key, flash-drive, USB key, USB stick is a data storage device that includes flash memory with an integrated USB interface. It is typically removable, rewritable and much smaller than an optical disc. USB flash drives are often used for storage, data back-up and transfer of computer files. Compared with floppy disks or CDs, they are smaller, faster, have significantly more capacity, and are more durable due to a lack of moving parts.

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text (word or numbers) or graphics printed on it. Softcopy output is displayed on a monitor.

Monitor is a component with a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

Modem is an example of communication hardware — an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

Task 2. Which of the following is:

input hardware	processing hardware	storage hardware	output hardware

Program, USB flash drive, mouse, CPU, printer, modem, pen drive, command, video camera, port, cursor or the pointer, keyboard, character, printer, CDs, optic-electronic scanner, light pen, microphone.

Task 3. Which of the listed below statements are true/false:

1. Computer is an electronic device therefore hardware is a system of electronic devices.
2. The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
3. An optic-electronic scanner is used for storing information.
4. The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.
5. The Central Processing Unit (CPU) is the brain of the computer

Task 4. Match the words:

1. to execute	1. оборудование
2. hold	2. обеспечивать
3. equipment	3. достигать
4. connect	4. управлять
5. common	5. переводить
6. purpose	6. держать
7. to reach	7. распространенный
8. to retrieve	8. соединять
9. to convert	9. выполнять
10.to direct	10.извлекать
11.to interpret	11.преобразовывать
12.to provide	12.цель

Task 5. Answer the questions:

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware?
4. What are the examples of input hardware?
5. What is mouse designed for? What is a light pen?
6. What is processing hardware? What are the basic types of memory used in a PC?
7. What is storage hardware? What is USB flash drive used for?
8. What is modem used for?

2.4. Software

Task 1. Read and translate the text:

A computer to complete a job requires more than just the actual equipment or hardware we see and touch. It requires Software — programs for directing the operation of a computer or electronic data.

Software is the final computer system component. These computer programs instruct the hardware how to conduct processing. The computer is merely a general-purpose machine which requires specific software to perform a given task. Computers can input, calculate, compare, and output data as information. Software determines the order in which these operations are performed.

Programs usually fall in one of two categories: system **software** and **applications software.**

System software controls standard internal computer activities. An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory. This software contains information about memory capacity, the model of the processor, the disk drives to be used, and more. Once the system software is loaded, the applications software can be brought in.

System programs are designed for the specific pieces of hardware. These programs are called *drivers* and coordinate peripheral hardware and computer activities. User needs to install a specific driver in order to activate a peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which, though, commonly goes along with your device. By installing the driver you «teach» your mainboard to «understand» the newly attached part.

Applications software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software.

Data communication within and between computers systems is handled by system software.**Communications software** transfers data from one computer system to another. These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories.

Task 2. Which of the following is:

Software

Program, Mouse, programs for directing the operation, CPU, Word processor, Modem, information about memory, capacity, Web-browser , drivers, Scanner, Printer, Display , data security, Operating system.

Task 3. Which of the listed below statements are true/false:

1. Computer programs only instruct hardware how to handle data storage.
2. System software can’t controls internal computer activities.
3. The information about memory capacity, the model of the processor and disk drives are unavailable for system software.
4. It is very reasonable to ask for a driver when you buy a new piece of hardware.
5. Communications software transfers data from one computer system to another.

Task 4. Match the words:

1. aid	1. материнская плата
2. to attach	2. загружать
3. developer	3. помощь
4. internal	4. присоединять
5. mainboard	5. отношение управлять,
6. memory capacity	6. обращаться с
7. peripheral	7. разработчик
8. to boot	8. внутренний
9. to direct	9. периферийный
10.to handle	10.управлять, руководить
11.to install	11.вместимость памяти
12.regard	12.устанавливать

Task 5. Answer the questions:

1. What is software?
2. In what two basic groups software (programs) could be divided?
3. What is system software for?
4. What is an operating system — a system software or application software?
5. What is a «driver»?
6. What is application software?
7. What is application software used for?
8. What is the application of the communication software?

2.5. Databases and database management systems

Task 1. Read and translate the text:

A database is a collection of related data or facts arranged in a specific structure. A database management system (DBMS) is a program, or collection of programs, that allows multiple users to store, access, and process data or facts into useful information.

Three of the most important terms to know about databases are a table, a record, a field. Data is stored in tables. A table is divided into records (unnamed rows), and each record is divided into fields (named columns). The table consists of a set number of fields and an arbitrary number of records. For a record to exist, it must have data in at least one field.

To help you understand how a database stores data, think about a typical address book. Each piece of information in the address book is stored in its own location, called a field. For example, each entry has a field for First Name and another field for Last Name, as well as fields for Address, City, State, ZIP Code, and Phone Number. Each unique type of information is stored in its own field. One full set of fields – that is, all the related information about one person or object – is called a record. Therefore, all the information for the first person is record 1, all the information for the second person is record 2, and so on.

A complete collection of records makes a table. Once you have a structure for storing data (whether it is a printed address book, phone book, or electronic table), you can enter and view data, create reports, and perform other tasks with the data.

For example, you may create a customer report that lists customers by ZIP Code.

A DBMS provides tools to perform data management functions: creating tables, sorting tables, entering and editing data, querying the database, viewing data, generating reports.

Many different DBMS programs are available. Enterprise level products, such as Oracle, DB2, and Sybase, are designed to manage large special purpose database systems. Programs such as Microsoft Access, Corel's Paradox, and Lotus Approach are popular among individual and small business database users.

Task 2. Which of the listed below statements are true/false:

1. A database is a collection of related data or facts arranged in a specific structure.
2. Two of the most important terms to know about databases are a table and a record.
3. A table is divided into records, and each record is divided into fields.
4. The table consists of a set number of fields and an arbitrary number of records.

5. A DBMS directs tools to perform data management functions.
6. Many different DBMS programs are not available.
7. Enterprise level products, such as Oracle, DB2, and Sybase, are designed to manage large special purpose database systems.
8. Only program such as Microsoft Access is popular among individual and small business database users.

Task 3. Answer the questions:

1. What is a database management system (DBMS)?
2. How many the most important terms do you know about databases?
3. Where is data stored?
4. What is a table divided into?
5. What is record divided into?
6. According to the text what do you need imagine to understand how a database stores data?
7. What does a DBMS provide?
8. What are Enterprise level products designed for?

Task 4. Match the words with their definitions:

a) able b) execute c) influence d) general e) current f) hold g) permanent h) step i) by means of j) plug	1. clever, having or showing knowledge or skill 2. now passing, of the present time 3. have or keep in one's possession 4. one action in a series of actions 5. carry out 6. make a connection 7. not special or particular 8. through, with the help of 9. not expected to change, going for a long time 10. power to affect, action of some force

2.6. Programming languages

Task 1. Read and translate the text:

1. SQL

SQL is a standard language for accessing databases.

What is SQL? SQL stands for Structured Query Language; SQL lets you access and manipulate databases; SQL is an ANSI (American National Standards Institute) standard systems.

What can SQL do?

SQL can execute queries against a database
SQL can retrieve data from a database
SQL can insert records into a database
SQL can update records in a database
SQL can delete records from a database
SQL can create new databases
SQL can create new tables in a database
SQL can create stored procedures in a database
SQL can create views in a database
SQL can set permissions on tables, procedures, and views

2. JAVA

Java plays a significant role in the corporate world. Companies of all sizes are using Java as the main programming language to develop various applications/projects worldwide. It has found its use in various sectors including banking, insurance, retail, media, education, manufacturing and so on.

3. HTML

HTML or HyperText Markup Language is the standard markup language used to create web pages. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets. HTML tags most commonly come in pairs like <h1>.

4. JAVASCRIPT

What is JavaScript?

Client-side scripts, which run on the user's workstation, can be used to:

1. Validate user inputs entered on HTML forms.
2. Handling manipulation of the browser (opening new ones, redirection …).
3. Creating "cookies" that store data on user's computer about his or her actions while browsing a Web page.
4. Create animations and graphical effects.

5. PYTHON

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its

interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms.
The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, http://www.python.org/, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation.

6. C++

If there is one language that defines the essence of programming today, it is C++. It is the preeminent language for the development of high-performance software. Its syntax has become the standard for professional programming languages, and its design philosophy reverberates throughout computing.

C++ is also the language from which both Java and C# are derived. Simply stated, to be a professional programmer implies competency in C++. It is the gateway to all of modern programming.

The purpose of this module is to introduce C++, including its history, its design philosophy, and several of its most important features. By far, the hardest thing about learning a programming language is the fact that no element exists in isolation. Instead, the components of the language work together. This interrelatedness makes it difficult to discuss one aspect of C++ without involving others. To help overcome this problem, this module provides a brief overview of several C++ features, including the general form of a C++ program, some basic control statements, and operators. It does not go into too many details, but rather concentrates on the general concepts common to any C++ program.

Task 2 . Answer the questions:

1. What language is a standard for accessing databases?
2. What can SQL create?
3. What can SQL retrieve?
4. What language will you use to develop various applications/projects worldwide?
5. What language will you use to create web pages?
6. What is HTML?
7. What is JavaScript?
8. What language does efficient high-level data structures have?
9. List some facts about C++.

Task 3 . Chose the correct translation:

consist

a) прикреплять b) состоять c) извлекать d) составлять

extract

a) прикреплять b) состоять c) извлекать d) составлять

step

a) шаг b) набор c) влияние d) средство

involve

a) предоставлять b) вовлекать c) устанавливать d) делать

set

a) шаг b) набор c) влияние d) средство

influence

a) шаг b) набор c) влияние d) средство

attach

a) прикреплять b) состоять c) извлекать d) составлять

provide

a) предоставлять b) вовлекать c) устанавливать d) делать

means

a) шаг b) набор c) влияние d) средство

make up

a) прикреплять b) состоять c) извлекать d) составлять

2.7. Keyboard Layout and Data Entry

Task 1. Read and translate the text:

The keyboard is where the data or information is input into the computer. It is usually arranged like an ordinary typewriter keyboard with a number of other keys added which carry out special functions.

Alphanumeric keys: arranged in the same order as a typewriter.

Function keys: used by various programs to instruct the PC to perform specific tasks, such as Save, Copy, Paste, Help, etc.

Numeric keypad: set of numeric or editing keys. The NumLock key is used to switch from numbers to editing functions.

Editing keys: cursor and other keys usually used within word processors to page up and down in a long document or to edit text (using Insert or Delete keys).

Special keys: used to issue commands or to produce alternative characters in key combinations, for example, the Alt key.

ENTER or **RETURN** - Moves the cursor down one line and to the left margin. Enter also process commands such as choosing an option in a dialog (message) boxes and submitting a form.

DEL or **DELETE** - Deletes the character at cursor and/or characters to the right of the cursor and all highlighted (or selected) text.

BKSP or **BACKSPACE** - Deletes the character to the left of cursor and all highlighted text.

SPACE BAR - Moves the cursor one space at a time to the right.

SHIFT KEY - Use the shift keys to type capital letters and to type the upper character on keys with two characters on them.

CAPS LOCK - Locks the keyboard so it types capital letters (a light goes on when caps lock is on)

TAB - Moves the cursor five spaces to the right (number of spaces are usually adjustable). Tab moves to the next field in a form or table (Shift-Tab for previous field).

ESC or **ESCAPE** - Cancels a menu or dialog box.

ARROW KEYS - Moves the cursor around document without changing text.

FUNCTION KEYS or **F KEYS** - Access commands by themselves or in combination with the three **command** keys; CTRL, SHIFT, and ALT.

What is QWERTY?

The first modern typewriter was developed by Christopher Sholes and two of his friends, Carlos Glidden and Sam Soule. They worked on a newspaper in Milwaukee, Wisconsin, in the 1860s.

Sholes put each letter on the end of a metal bar. A key was pushed down and the end of the bar hit the paper. The typewriter keys were put in alphabetical order, but the alphabetical order caused a problem. Fast typing made some of the letter bars get caught on one another. The bars were too close together.

Sholes solved the problem. He found out the most-used letters in English. Then he put these letters far apart on the typewriter keyboard. The letter bars did not hit each other easily. The first six letters on the top of the keyboard are QWERTY!

Task 2. Choose the correct variant to complete the sentences:

1. Sholes worked for …

a) the government b) a typewriter company c) a newspaper

2. Letters were put on the end of metal …

a) bars b) keys c) alphabets

3. … caused the bars to get caught on one another.

a) The metal b) Fast typing c) The letters

4. Sholes needed to know … to solve the problem.

a) QWERTY b) the most-used letters Samuel Soule

5. Then he put these letters far … on the typewriter keyboard.

a) behind b) ahead c) apart

Task 3. Match these descriptions with the names of the keys in the box:

Arrow Keys, Return/Enter, Backspace, Caps Lock, Shift, Tab, Escape, Space Bar, Delete, Alt

1. A long key at the bottom of the keyboard. Each time it is pressed, it produces a blank space (…).
2. It moves the cursor to the beginning of a new line. It is also used to confirm commands (…).
3. It stops the program without losing the information from the main memory. Sometimes its use depends on the application (…).

4. It works in combination with other keys to produce special characters or specific actions (…).
5. It removes the character on the right of the cursor or any selected text (…).
6. It produces UPPER-CASE characters or the upper-case character of the key (…).
7. It produces the upper-case letters but it does not affect numbers and symbols (…).
8. It moves the cursor horizontally to the right for a fixed number of spaces (in tabulations and data fields) (…).
9. They are used to move the cursor as an alternative to the mouse (…).
10. It removes the character on the left of the cursor (…).

Task 4. Match the words with their meanings:

1. produce 2. combination 3. arrange 4. sign 5. arrow 6. confirmation 7. approximate 8. between 9. same 10. for example	a) организовать b) стрелка c) производить d) подтверждение e) между f) приблизительный g) знак h) например i) одинаковый j) сочетание

2.8. English abbreviations & acronyms

Task 1. Read and translate the text:

Acronyms and initialisms are abbreviations formed from the initial components in a phrase or name. An abbreviation (from Latin brevis, meaning short) is a shortened form of a word or phrase. For example, the word abbreviation can itself be represented by the abbreviation abbr.,

Why do you need to know this? Well, you don't, but you will find them cropping up in business, and education, and nowadays in forums, when you're texting and in chat rooms. So, it's a good idea to at least be aware of their existence.

Task 2. Speaking Work in small groups. List the IT acronyms you know.

Task 3. Read this dialogue and complete it: it; help; mean; spell; stand:

A: Bob, can you (1)….. me, please?
B: Sure.
A: I don't understand this acronym. What does it (2) …. for?
B: Let me see. 'W3'. I'm not sure. Maybe WWW, the World Wide Web.
A: OK. What does P2P stand for?
B: …..(3) stands for person-to-person.
A: OK. What does IP (4) ….?
B: It means Internet Protocol.
A: How do you (5) …..'Protocol'?
B: p - r - o - t - o - c - o - 1.
A: Thanks. You're welcome.

Task 4. Match the parts:

1. HTML	American National Standards Institute
2. FTP	Structured Query Language
3. WLAN	World Wide Web
4. SQL	by the way
5. ANSI	Wireless Local Area Network
6. WWW	etcetera (and so forth)
7. BTW	File Transfer Protocol
8. CEO	HyperText Markup Language
9. etc.	Page up
10.FAQ(s)	frequently asked question(s)
11.Pgdn	chief executive officer

2.9. Introduction to the WWW and the Internet

Task 1. Read and translate the text:

Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts, business, government, humanities, news, politics and recreation. People communicate through electronic mail (e-mail), discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

The **World Wide Web** (WWW) is a part of the Internet. But it's not a collection of networks. Rather, it is information that is connected or linked together like a web. You access this information through one interface or tool called a *Web browser*. The number of resources and services that are part of the World Wide Web is growing extremely fast. In 1996 there were more than 20 million users of the WWW. Nowadays this number is rather higher- more than 4 208 000 000 people. By using a computer terminal (hardware) connected to a network that is a part of the Internet, and by using a program (software) to browse or retrieve information that is a part of the World Wide Web, the people connected to the Internet and World Wide Web through the local *providers* have access to a variety of information. Each browser provides a graphical interface. You move from place to place, from site to site on the Web by using a mouse to click on a portion of text, icon or region of a map. These items are called hyperlinks or links. Each link you select represents a document, an image, a video clip or an audio file somewhere on the Internet. The user doesn't need to know where it is, the browser follows the link.

All sorts of things are available on the WWW. One can use Internet for recreational purposes. Many TV and radio stations broadcast live on the WWW. Essentially, if something can be put into digital format and stored in a computer, then it's available on the WWW. You can even visit museums, gardens, cities throughout the world, learn foreign languages and meet new friends. And, of course, you can play computer games through WWW, competing with partners from other countries and continents.

Task 2. Find the equivalents into the text:

Объем ресурсов и услуг, которые являются частью WWW; каждая ссылка; графическое изображение; Интернет может быть также использован для целей развлечения; вы получаете доступ к ресурсам Интернет ; через интерфейс или инструмент; десятки тысяч компьютерных сетей; пользователи общаются через электронную почту; другие средства

информационного обмена; эта цифра значительно больше; используя мышку выделяем текст; ты можешь посетить даже музей.

Task 3. Fill in the gaps using words:

web browser, providers, link, WWW

1. You access the information through one interface or tool called a...
2. People connected to the WWW through the local... have access to a variety of information.
3. The user doesn't need to know where the site is, the... follows the...
4. In 1996 there were more than 20 million users of the...
5. Each... provides a graphical interface.
6. Local... charge money for their services to access... resources.

Task 4. Answer the questions:

1. What is Internet used for?
2. Why so many activities such as e-mail and business transactions are possible through the Internet?
3. What is World Wide Web?
4. What is Web browser?
5. What does a user need to have an access to the WWW?
6. What are hyperlinks?
7. What resources are available on the WWW?
8. What are the basic recreational applications of WWW?

Task 5. Chose the correct translation:

ordinary
a) независимый b) обычный c) краткий d) предыдущий
table
a) таблица b) строка c) распознавание d) описание
independent
a) независимый b) обычный c) краткий d) предыдущий
line
a) таблица b) строка c) распознавание d) описание
brief
a) независимый b) обычный c) краткий d) предыдущий
recognition
a) таблица b) строка c) распознавание d) описание

previous

a) независимый b) обычный c) краткий d) предыдущий

description

a) таблица b) строка c) распознавание d) описание

to follow

a) запирать b) производить c) следовать d) подписывать

to lock

a) запирать b) производить c) следовать d) подписывать

3. ADDITIONAL. TEXTS. ДОПОЛНИТЕЛЬНЫЕ ТЕКСТЫ

Interesting facts about programming

- The **first computer programmer** was a female, named Ada Lovelace.
- The **first game** was created in 1961. Fun facts are that it didn't earn any money.
- The **first virus** was created in 1983.
- The **first computer "bug"** was identified in1947 as a dead moth.
- The **first computer** was actually a loom called the Jacquard loom, an automated, mechanical loom, which didn't use any electricity.
- The **first high-level** (very close to real English that we use to communicate) **programming language** was **FORTRAN**. It was invented in 1954 by IBM's John Backus.
- Computer programming is one of the fastest growing occupations currently.
- The original name for JAVA was **OAK**.
- JavaScript is not **compiled.**
- Majors related to computer programming are among the highest paying in colleges and universities. A programming language is basically a language that allows a human being to communicate with a computer. The lifestyle we live today with our tablets, and mobile phones wouldn't be possible without computer programming.
- Did you know **how many total programming languages**? – it's **698**.
- Most people are intimidated by the thought of learning how to program, however as with anything, the more you practice and repeatedly do that task, the easier it gets.
- The Java mascot, 'The Duke' was created by Joe Palrang. Palrang is the same guy who has worked on the Hollywood blockbuster, Shrek. Duke is celebrated at Oracle.
- Four states of programmer progress:

a) Complex Programming
b) Making Progress
c) Slow Progress
d) Stuck

- It is not a tool or magic it is power to create your Imagination in reality.
- Programming can learn you a new way of thinking.
- Perl is sometimes known as the "Swiss-Army knife" of programming languages.
- APIs are like stars, once a class is there everybody will assume it will always be there.
- Did you know first computer bug was named due to a real bug as shown in below pic? Grace Hopper recorded the first computer 'bug' in the book as she was working for the MARK II computer.

Information Technology

Information Technology means the use of hardware, software services, and supporting infrastructure to manage and deliver information using voice, data, and video.

To further define information technology and what should be included as far as the IT budget, the following information is provided:

Information Technology includes:

• all computers with a human interface
• all computer peripherals which will not operate unless connected to a computer or network
• all voice, video and data networks and the equipment, staff and purchased services necessary to operate them
• all salary and benefits for staff whose job descriptions specifically include technology functions, i.e. network services, applications development, systems administration
• all technology services provided by vendors or contractors
• operating costs associated with providing information technology
• all costs associated with developing, purchasing, licensing or maintaining software

Agencies may wish to include other costs at their discretion. For example, an agency may wish to include digital cameras in their IT budget even though they can be operated stand-alone. Data entry personnel may be included if they are considered part of the technology staff. Costs that are excluded above may be included if they are an integral part of a computer applications or would be difficult to break out because the costs are included with other information technology costs.

Examples of Information Technology:

• Telephone and radio equipment and switches used for voice communications.
• Traditional computer applications that include data storage and programs to input, process, and output the data.
• Software and support for office automation systems such as word processing and spreadsheets, as well as the computer to run them.
• Users' PCs and software.
• Server hardware and software used to support applications such as electronic mail/groupware, file and print services, database, application/ web servers, storage systems, and other hosting services.
• Data, voice, and video networks and all associated communications equipment and software.
• Peripherals directly connected to computer information systems used to collect or transmit audio, video or graphic information, such as scanners and digitizers.
• Voice response systems that interact with a computer database or application.
• The state radio communications network.

• Computers and network systems used by teachers, trainers, and students for educational purposes.
• "Open/integrated" computer systems that monitor or automate mechanical or chemical processes and also store information used by computer applications for analysis and decision-making, such as the Metasys building management system.
• All operating costs, equipment and staff time associated with supporting the technology infrastructure of the agency, possibly including items excluded above, such as video equipment used for technology training that is included in the information systems cost center for the agency.

Myths about working in the IT industry

Myths accompanied people since ancient times and still exist in our high-tech world. The effect of "broken telephone" works even in the sphere of computer technologies. The main causes of the myths – the lack of information or its distortion.

Myth №1 IT companies do not take young workers

For now, quantity turns into quality. One the one hand, many large companies need experienced staff, rather than experts, which still need to be trained. On the other hand, some companies prefer to prepare the staff for itself, by offering internships to students of senior courses, practice, as well as various training programs.

Myth №2 Men are easier to get a job in IT, than girls

How important is the women in the domestic IT industry and whether IT is still – exclusively male domain? It is known that women are more responsible and attentive. Yes, they are now in the IT industry work more on the position of Business Analyst, Quality Control Specialist, but there are also highly qualified programmers. It is well known that in the past years the number of women in the IT-sphere has increased significantly as a percentage, and continues to grow. Girls all actively explore the scope of testing, project management, traditionally a lot of girls in the design and marketing. But trends show an increase in the number of girls and among developers.

Myth №3 You cannot get in the IT sphere without education

Despite the fact that there are cases where without any professional education not only arranged in IT, but also lined up a promising career – this is rather an exception to the rule. It is clear that the work in the sphere of high technologies without profile preparation – absurd by definition. And you can get. Availability of education is a prerequisite for working in the IT field. Higher education, in addition to the necessary basic knowledge and skills, instills self-learning ability, forms the ability to learn specific subjects and to use this knowledge in their work. No education in the IT field is difficult to find a decent job.

Myth №4 Programmers must know English

All popular programming languages, it is easy to see, are based on the English language tokens, so physics and mathematics is not enough to become a programmer. The start of a career requires an initial level of knowledge of English, because the technical documentation is often written in English. IT-industry has long gone beyond one state, and to feel comfortable in it, one of the ordinary skill in the IT-must be proficient in English, and do not be lazy to improve their knowledge.

Myth №5 Programmers are strange people

Is that because of their clothes, which don`t include a tie and a T-shirt. I may agree that those who are engaged in development – are often introverts, so they quietly do their work and can seem to someone strange. Display, if I may say so, some special technological or behavioral type – "programmer", it is impossible, but probably not need is those stories that are probably of films about hackers.

Top 10 greatest programmers in the world of all time

These programmers are the explorer in IT world and have each contributed something that has completely changed the way human's access to information and mass media. Do you imagine today's life without information technology? In this article, we introduce Top 10 Greatest Programmers in the World of all Time. Let's start with lords of IT world.

DENNIS RITCHIE

Dennis Macalistair Ritchie was an American computer scientist who "helped shape the digital era". He created the c programming language and with long-time colleague Ken Thompson, the UNIX operating system. Ritchie and Thompson received the Turing award from the ACM in 1983, the hamming medal from the IEEE in 1990 and the national medal of technology from president Clinton in 1999. Ritchie was the head of lucent technologies system software research department when he retired in 2007.

BJARNE STROUSTRUP

Bjarne Stroustrup is a Danish computer scientist, most notable for the creation and development of the widely used C++ programming language. He is a distinguished research professor and holds the college of engineering chair in computer science at Texas A&M university, a visiting professor at Columbia university, and works at Morgan Stanley.

JAMES GOSLING

James Arthur Gosling is a Canadian computer scientist, best known as the father of the Java programming language. James has also made major contributions to several other software systems, such as NeWS and Gosling Emacs. Due to his extraordinary achievements, Gosling was elected to Foreign Associate member of the United States National Academy of Engineering.

LINUS TORVALDS

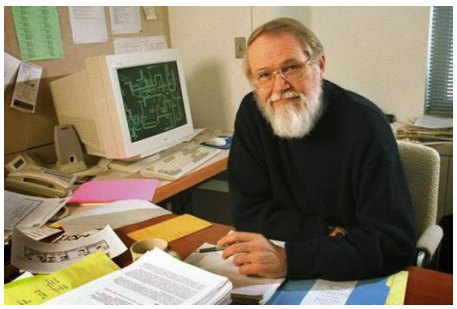
Linus Benedict Torvalds is a Finnish American software engineer, who was the principal force behind the development of the Linux kernel. He later became the chief architect of the Linux kernel, and now acts as the project's coordinator. He also created the revision control system Git as well as the diving log software Subsurface. He was honored, along with Shinya Yamanaka, with the 2012 Millennium Technology Prize by the Technology Academy Finland in recognition of his creation of a new open source operating system for computers leading to the widely used Linux kernel.

ANDERS HEJLSBERG

Anders Hejlsberg is a prominent Danish software engineer who co-designed several popular and commercially successful programming languages and development tools. He is the creator of popular programming language C#. He was the original author of Turbo Pascal and the chief architect of Delphi. He currently works for Microsoft as the lead architect of C# and core developers on TypeScript.

TIM BERNERS-LEE

Sir Timothy John "Tim" Berners-Lee is also known as "TimBL", is a British computer scientist, best known as the inventor of the World Wide Web. He made a proposal for an information management system in March 1989 and he implemented the first successful communication between a Hypertext Transfer Protocol (HTTP) client and server via the Internet. Berners-Lee is the director of the World Wide Web Consortium (W3C), which oversees the Web's continued development.



BRIAN KERNIGHAN

Brian Wilson Kernighan is a Canadian computer scientist who worked at Bell Labs alongside Unix creators Ken Thompson and Dennis Ritchie and contributed to the development of Unix. He is also coauthor of the AWK and AMPL programming languages. Kernighan's name became widely known through co-authorship of the first book on the C programming language with Dennis Ritchie.

KEN THOMPSON

Kenneth Thompson commonly referred to as ken in hacker circles is an American pioneer of computer science. Having worked at Bell Labs for most of his career, Thompson designed and implemented the original Unix operating system. He also invented the B programming language, the direct predecessor to the C programming language, and was one of the creators and early developers of the Plan 9 operating systems. Since 2006, Thompson works at Google, where he co-invented the Go programming language.

GUIDO VAN ROSSUM

Guido van Rossum is a Dutch computer programmer who is best known as the author of the Python programming language. In the Python community, Van Rossum is known as a “Benevolent Dictator For Life” (BDFL), meaning that he continues to oversee the Python development process, making decisions where necessary. He was employed by Google from 2005 until December 7th, 2012. Where he spent half his time developing the Python language. In January 2013, Van Rossum started working for Dropbox.

DONALD KNUTH

Donald Ervin Knuth is an American computer scientist, mathematician, and Professor Emeritus at Stanford University. He is the author of the multi-volume work The Art of Computer Programming. Knuth has been called the “father” of the analysis of algorithms. He contributed to the development of the rigorous analysis of the computational complexity of algorithms and systematized formal mathematical techniques for it. In the process, He also popularized the asymptotic notation. Knuth is the creator of the TeX computer typesetting system, the related METAFONT font definition language and rendering system and the Computer Modern family of typefaces.

The Internet and Software programming was not created in one night and by one person or company. It’s a combination of each software programmer’s innovations that have brought us to where we are today. The greatest thing about the programming world is that it’s always improving.

4. ADDITIONAL. TASKS. ДОПОЛНИТЕЛЬНЫЕ ЗАДАНИЯ

Task. Chose the correct translation:

include
a) включать b) выключать c) появляться d) включать (в себя)
a number of
a) номер b) несколько c) пиктограмма d) заставка
to turn off
a) включать b) выключать c) появляться d) включать (в себя)
folder
a) рабочий стол b) заставка c) обои d) папка
background picture
a) рабочий стол b) заставка c) обои d) папка
to turn on
a) включать b) выключать c) появляться d) включать (в себя)
to add
a) включать b) удалять c) добавлять d) выключать
desktop
a) рабочий стол b) заставка c) обои d) папка
to appear
a) включать b) выключать c) появляться d) включать (в себя)
screen saver
a) рабочий стол b) заставка c) обои d) папка

Task. Match the words with their meanings:

1) control 2) number 3) person 4) boot up 5) appear 6) add 7) include 8) folder 9) contain 10) desktop	a) рабочий стол b) человек c) складывать d) содержать e) управлять f) папка g) загружать h) число i) включать в себя j) появляться

Task. Match the words with their definitions:

1) background 2) delete 3) double-click 4) file 5) folder 6) icon 7) Recycle Bin 8) Screensaver 9) personalize 10) desktop

1. to remove smth that has been stored on a computer
2. a place where a number of computer files or documents can be stored together

3. a program that runs a moving image on a computer screen when the keyboard and the mouse are not being used
4. to design or change smth so that it is suitable for the needs of one particular person
5. the first screen that appears when you turn on your computer and which displays icons that represent files, folders, documents, etc
6. picture or colour on the first screen that appears when you turn on the computer
7. the folder in Microsoft Windows where files or programs that have been deleted or removed are stored
8. to press one of the buttons on a mouse twice quickly in order to start an action on screen
9. a small symbol on a computer screen which represents a program, or a file
10. a collection of information, such as a Word document or a picture, which is stored in a computer, under a particular name

Task. Chose the correct translation:

to allow
a) нажимать b) позволять c) отпускать d) перечислять
to release
a) нажимать b) позволять c) отпускать d) перечислять
relation
a) причина b) отношение c) поиск d) список
to represent
a) касаться b) представлять c) указывать d) вставлять
to press
a) нажимать b) позволять c) отпускать d) перечислять
cause
a) причина b) отношение c) поиск d) список
to list
a) нажимать b) позволять c) отпускать d) перечислять
search
a) причина b) отношение c) поиск d) список
to point
a) касаться b) представлять c) указывать d) вставлять
list
a) причина b) отношение c) поиск d) список

Task. Chose the correct translation:

ordinary

a) независимый b) обычный c) краткий d) предыдущий
table
a) таблица b) строка c) распознавание d) описание
independent
a) независимый b) обычный c) краткий d) предыдущий
line
a) таблица b) строка c) распознавание d) описание
brief
a) независимый b) обычный c) краткий d) предыдущий
recognition
a) таблица b) строка c) распознавание d) описание
previous
a) независимый b) обычный c) краткий d) предыдущий
description
a) таблица b) строка c) распознавание d) описание
to follow
a) запирать b) производить c) следовать d) подписывать
to lock
a) запирать b) производить c) следовать d) подписывать

Task. Match the words with their meanings:

1) to restore 2) default 3) exactly 4) word processor 5) row 6) digit 7) to flash 8) disadvantage 9) to exist 10) to show	a) текстовый редактор b) мигать c) ряд d) восстановить e) существовать f) показывать g) недостаток h) по умолчанию i) цифра j) точно

Task. Match the words with their definitions:

a) able b) execute c) influence d) general e) current f) hold g) permanent h) step i) by means of j) plug	1) clever, having or showing knowledge or skill 2) now passing, of the present time 3) have or keep in one's possession 4) one action in a series of actions 5) carry out 6) make a connection 7) not special or particular 8) through, with the help of 9) not expected to change, going for a long time 10) power to affect, action of some force

5. ИНФОРМАЦИОННОЕ ОБЕСПЕЧЕНИЕ

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