**ЗАДАНИЕ НА 25.02.25Г.**

**UNIT 9**

**THE CPU MAIN COMPONENTS.**

As it is known the two functional units of the CPU are the control unit (CU) and the arithmetic-logical unit (ALU). The control unit manages and coordinates the entire computer system. It obtains instructions from the program stored in main memory, interprets the instructions, and issues signals that cause other units of the system to execute them.

The control unit operates by reading one instruction at a time from memory and taking the action called for by each instruction. In this way it controls the flow between the main storage and the arithmetic-logical unit.

The control unit has the following components: a counter that selects the instructions, one at a time, from memory; a register that temporarily holds the instructions read from memory while it is being executed; a decoder that takes the coded instruction and breaks it down into individual commands necessary to carry it out; a clock, which produces marks at regular intervals. These timing marks are electronic and very rapid.

The sequence of control unit operations is as follows. The next instruction to be executed is read out from primary storage into the storage register. The instruction is passed from the storage to the instruction register. Then the operation part of the instruction is decoded so that proper arithmetic or logical operation can be performed. The address of the operand is sent from the instruction register to the address register. At last the instruction counter register provides the address register with the address of the next instruction to be executed.

The arithmetic-logical unit (ALU) executes the processing operrand is sent from the instruction register to the processing operations called for by the instructions brought from main memory by the control unit. Binary arithmetic, the logical operations and some special functions are performed by the arithmetical-logical unit.

Data enter the ALU and return to main storage though the storage register. The accumulator serving as a register holds the results of processing operations. The results of arithmetic operations are returned to the accumulator for transfer to main storage though the storage register. The comparer performs logical comparisons of the contents of the storage register and the accumulator. Typically, the comparer tests for conditions such as “less than”, “equal to”, or “greater than”.

So as you see the primary components of the arithmetic-logical unit are banks of bistable devices, which are called register. Their purpose is to hold the numbers involved in the calculation and hold the results temporarily until they can be transferred to memory. At the core of the ALU is a very high speed binary adder, which is used to carry out at least the four basic arithmetic functions (addition, subtraction, multiplication and division). The logical unit consists of electronic circuitry which compares information and makes decisions based upon the results of the comparison.

**Copy out the vocabulary:**

control unit (CU) – блок управления

arithmetic-logical unit (ALU) – арифметико-логический блок

to obtain – получать

to store – хранить

to issue – выдавать

to execute – выполнять

flow – поток

counter – счетчик

register – регистр

decoder – декодер

to carry out – выполнять

rapid – быстрый

sequence – последовательность

primary storage – первичное хранилище

storage register – регистр хранения

instruction register – регистр команд

operand – операнд/объект действия

address register – адресный регистр

binary arithmetic – двоичная арифметика

accumulator – аккумулятор/сумматор

comparer – компаратор/блок сравнения

logical comparisons – логическое сравнение

banks of bistable devices – система бистальных устройств (устройств с двумя устойчивыми состояниями)

binary adder – двоичный сумматор

electronic circuitry – электронная схема

1. **Answer the following questions:**
2. What are the functional units of CPU?
3. What is the function of CU?
4. How does CU operate?
5. What is the function of a counter?
6. What role does a decoder play?
7. What is the sequence of cu operations?
8. What is the function of the arithmetic-logical unit?
9. What operations are performed by ALU?
10. What primary components does ALU consist of?
11. What is the function of an accumulator?
12. **Find equivalents for the following words and word combinations in the text:**
13. результаты сравнения;
14. принимать решения;
15. умножение;
16. двоичный сумматор;
17. сложение;
18. адресный регистр;
19. дешифратор;
20. вычитание;
21. адрес операнда;
22. датчик;
23. счетчик;
24. регистр памяти;
25. основная память;
26. последовательность операций.

**Задание на 01 марта 2025года.**

**UNIT 10**

**APPLICATION PROGRAMS**

An Application Program is a software program that performs a specific function, such as accounting, word processing or drafting. There are some categories of application program to choose from spreadsheet, Database Management, Computer Aided Design (CAD), Communications, Graphic presentations, desktop Publishing, Integrated Programs, Window and Windows – based Programs. Within each category, there are several software programs which have gained industry-wide acceptance.

Word processing: is the most common application for a personal computer. Most word processing software programs allow us to create, edit, and save documents, along with changing the position of the text in a document, inserting new information in the middle of the text, or removing words and sections no longer needed. With a typewriter, you would have to re-type the entire document after a few major changes. Given a computer, a document can be stored electronically and retrieved at any time for modification.

Examples of word processing programs include: Word Perfect; MS-Word; Multimate; Wordstar; Displaywrite; Word for Windows; Word Perfect for Windows.

Accounting and spreadsheets: One of the primary functions of the first mainframe computers was to store and calculate volumes of financial data for banks and large businesses. Nowadays, a personal computer is capable of handing the accounting and finances of almost any small to medium-sized business. Many different programs are available for plotting financial trends and performing everyday bookkeeping functions. One of the most popular financial tools is called a spreadsheet. An electronic spreadsheet is a software program, which performs mathematical calculations and ‘want – if’ analysis. Besides replacing your pencil and calculator for solving financial and statistical problems, spreadsheets can display line graphics, bar chats, and scatter plot diagrams. Often accounting and spreadsheet programs are designed to work together, in efforts to provide the financial solution.

Examples of accounting programs include: ACCPAC Simply Accounting, ACCPAC plus, Business Vision Turbo, New Views Accounting, Great Plains, Dac Easy, Peach Tree, Abacus II.

Examples of spreadsheet programs include: Lotus 1-2-3, MS-Exel, Quatro Pro, Supercale.

Database Management. A database is a simply collection of related information. Some common examples are a phone book, an inventory list, a personal file. A Database Management Software program assists in manipulating and organizing the information in a database. A database application is any task ordinarily handled by a filing cabinet, multiply file folders, or some other information storage system. In a manual system, for example, each drawer in filing cabinet is reserved for a specific purpose, such as maintaining profile sheets on customers. Each profile is written on a standard form and a clerk places the file folder in the drawer. This manual process is identical to a computerized database, where the database software performs the function of the filing clerk. Rather that placing the customer profiles in the filing cabinet drawer, a computerized database stores each profile electronically on a disk.

Some examples of a database management programs: Dbase, R:BASE, Paradox, FoxPro, Q&A, Oracle.

Computer Aided Design. Computers are the perfect tools for creating drawing or architectural plans. Because the drawings can be saved, it is easy to incorporate modifications, design improvements and corrections. Computers are often used on the final process of converting a computer drawing into a physical product. One such example is the manufacturing of electronic circuit boards. First, the electronic circuit drafting program produces the schematic design, then a second program tests the design by simulating the circuit’s operation, and finally a third program constructs the circuit board from the design layout.

Computer Aided Design programs are: AutoCAD, TANGO, PCAD, Generic CAD.

Communications: Computers can communicate with each other via regular telephone lines and modems. Communication software programs enable different types of computers to exchange data using a common language. The IMB PC can actually emulate various types of equipment, around the world, with the help of software. Communication programs are: Smartcom, Kermit, Crosstalk, PC Talk, Pro Comm, PC Anywhere, CloseUp.

Graphic Presentations: There are actually some people, who prefer to look at 14 columns of numbers across several pages for analyzing a business’ performance. These people are called accountants. However, most people are visual learners of diagrams, graphs and charts for representing numerical trends. There are a variety of programs for displaying information graphically: –Lotus 1-2-3, Exel, Quatro Pro, Chartmaster, Chart, Harvard Graphics, Micrografix Powerpoint, DrawPerfect.

Desktop Publishing is the process of taking a document and inserting graphics and applying enhanced formatting options. These programs take text from the more common word processor and produce print-shop quality output. Desktop publishing programs are used to create newsletters, brochures, reports, book and other publications.

Desktop publishing programs include: Aldus PageMaker, Ventura Publisher, AMI Professional. Integrated Programs: they unite one or more of the primary computer applications, whether word processing, spreadsheet or database into a single package. These programs allow people to experiment with the major computer applications, while only investing in a single product. The post popular integrated programs are: –MS-Works, Q&A, Eight in one, Symphony, Framework.

Microsoft Windows. Windows is a program, which enhances many aspects of using a microcomputer. It provides a graphical user interface (GUI and pronounced «Gooey») for programs running under the Windows environment. In other word, Windows allows a person to use a mouse and choose special symbols to point at and select desired functions, rather than having to remember commands. As well Windows’ products allow a WYSIWYG (‘what you see is, what you get’) screen display, especially important for word processing and desktop publishing programs.

**1. Translate these into your own language:**

1. software program
2. application program
3. industry-wide acceptance
4. along with changing the position
5. no longer needed
6. to re-type the entire document
7. calculate volumes of financial data
8. bookkeeping functions
9. to assist in manipulating and organizing the information
10. perfect tools
11. program tests the design
12. emulate various types
13. select desired functions

**2. Find English equivalents to the following words and expressions in the text:**

1. выполнять специфическую функцию
2. самая распространенная прикладная программа
3. создавать, редактировать, сохранять документы
4. вставлять новую информацию
5. удалять слова, которые больше не нужны
6. получить в любое время
7. быть способным, быть в состоянии что-либо выполнять
8. ручной процесс
9. пласт
10. используется, чтобы создать
11. позволяет людям экспериментировать
12. выбрать