***Laboratory work No. 2***

*Determination of properties of an operating system. Operation with files and directories*

Operation purpose: Acquisition of the main skills of operation in the environment of the MS-DOS operating system.

1. **SHORT THEORETICAL DATA**

1.1. Assignment of an operating system

Any operating system (OS) provides to the user and application programs of the means of communication (interface) with numerous devices of the computer. It perceives different commands from the user and executes them. Application programs, being launched by the user (again, not without the aid of OS), actively use services OS. For example,

if it is required to print the text document, then the text editor in which window there is this document, won't begin to interact directly with the printer, and will entrust this operation to an operating system. That, in turn, will check: whether the printer is switched on whether it is operational, whether its tray is filled with paper. Also will submit only after that in the certain portions the text for the printing, permanently watching at the same time behind a status of the operating printer. There is a big variety of operating systems: MS-DOS, DR-DOS, Windows 98, Windows 2000, Linux, Unix and great number of others. They differ from each other in opportunities, convenience of operation remove, productivity and other characteristics.

MS-DOS is an abbreviation from MicroSoft Disk Operating System, i.e.

disk operating system of the American firm Microsoft. The term "disk" means that OS settles down on a disk: either on the winchester, or on a diskette (the MS-DOS sizes quite allow it), or even on a compact disk.

The algorithm of a choice of this or that device is set in BIOS. For example, if there in the section "BIOS FEATURES SETUP (to show BIOS installations)" in the Boot Sequence (sequence of loading) point disks A are listed: C:, it means the following: if in the computer the diskette is set (a disk A:), an attempt to load MS-DOS from it if there is no diskette will be made, then loading of MS-DOS will go from the winchester (a disk C:).

* 1. **Composition of an operating system**

The MS-DOS operating system consists of the following parts:

§ BIOS (from Basic Input-Output System – the Basic input/output system). This part of OS "is rigidly sewed" in ROM or ROM (from Read Only Memory – Memory only for reading). BIOS contains tests of check of nodes of the computer (are automatically launched in case of switching on of the computer), and also the Initial loader – the small program for a call of more difficult MS-DOS Loader (an io.sys file fragment). Besides, BIOS executes input-output low-level operations (at the level of registers) with the monitor,

keypad, disks and printer.

§ Disk io.sys and msdos.sys files. The io.sys file (it settles down in initial sector of a system disk) contains as it was told, the MS-DOS Loader program. Besides, io.sys adds BIOS other low-level operations of input-output. With on -

the main high level services MS-DOS are implemented by power of the msdos.sys file.

§ command.com file – Command processor or command interpreter MS-DOS. Contains the main MS-DOS commands:

CLS, DIR, COPY and others, the called internal. Besides, it works also with the external MS-DOS commands, such as FORMAT, DELTREE and others, .com which are, as a rule, in the directory DOS and representing files with extension or .exe. The command processor command.com will organize execution of any commands of the user, entered from the keypad or by means of command files (files with extension of .bat).

The listed above MS-DOS components make the minimum composition of this operating system. In addition to it it is possible to specify also such MS-DOS elements as:

§ External MS-DOS commands. Represent as was skzano, files with extension of .com or .exe and being, as a rule, in the directory DOS.

§ Drivers. These are the special programs (files with расширениями.com, .exe or .sys) providing service new or non-standard use of the available external devices. Activation of the necessary drivers is carried out by means of files

config.sys and autoexec.bat.

§ Config.sys file. Represents the normal text file containing special commands for activation of different drivers. Besides, with its help it is possible to change operation modes or a configuration of MS-DOS.

§ autoexec.bat file. It is the command file automatically launched by an operating system on execution in case of switching on or restarting of the computer.

**1.3. Some commands of an operating system**

***Service commands***

1.3.1. To request help about the MS-DOS version.

Command format: **VER**

1.3.2. To clear the screen.

Command format: **CLS**

1.3.3. Request of current date.

Command format: **DATE**

1.3.4. Request of the current time.

Command format: **TIME**

***Navigation commands on disks and directories***

1.3.5. To replace the current disk.

Command format: **ИмяДиска:**

Example: C:\>***D:***:

D:\>

Note. Hereinafter: underlined phrases are created by the computer, greasy – the user enters, finishing input by clicking [Enter].

1.3.6. To replace the current directory.

Command format: **CD МаршрутКаталога**

Example: C:\>***CD DOS***

C:\DOS>

1.3.7. To return to the parent directory.

1.3.8. To pass into the root directory of the current disk.

Command format: **CD** \

***Commands for operation with files***

1.3.9. To rename the file.

Command format: **REN СтароеИмя НовоеИмя**

1.3.10. To view the file.

Command format: **TYPE ИмяФайла**

1.3.11. To edit the file.

Command format: **EDIT ИмяФайла**

1.3.12. To copy the file.

Command format: **COPY ИмяФайлаОригинала ИмяФайлаКопии**

1.3.13. File output to the printing.

Command format: **COPY ИмяФайла PRN**

1.3.14. To move the file.

Command format: **MOVE ИмяФайла МаршрутКаталога**

1.3.15. To delete the file.

Command format: **DEL ИмяФайла**

1.3.16. To create the new file: copy con **ИмяФайла.расширение**

***Commands for operation with directories***

1.3.16. To view directory contents.

Command format: **DIR [МаршрутКаталога] [/P]**

Where: / P – to include the mode of page-by-page information output on the screen

the monitor (in case of the large volume of information).

Note. The fragments of command line concluded in

square brackets are optional. In case of them

use square brackets fall.

1.3.17. To create the new directory.

Command format: **MD ИмяКаталога**

1.3.18. To rename the directory.

Command format: **MOVE СтароеИмя НовоеИмя**

1.3.19. To delete the empty directory.

Command format: **RD ИмяКаталога**

Note. It is impossible to delete the current directory, it is necessary to transfer in the beginning in

parent.

1. **THE JOB FOR OPERATION EXECUTION**

1. To turn on the computer under control of MS-DOS without jacket.

2. To request help about the MS-DOS version.

3. To clear the monitor screen.

4. To make current the disk D:.

5. To view contents of the root directory of a disk D: for the purpose of detection

in it directory LERNEN.

6. To make current the directory D:\LERNEN.

7. To view directory D:\LERNEN contents for the purpose of detection in it

directory PO\_PC.

8. To make current the directory D:\LERNEN\PO\_PC.

9. To view directory D:\LERNEN\PO\_PC contents.

10. To clear the screen.

11. To create the directories NEW-A and NEW-B in the directory D:\LERNEN\PO\_PC.

12. To make current the directory D:\LERNEN\PO\_PC\NEW-A.

13. To create in it (by means of the EDIT command) containing the file 1.txt of the following -

niya:

Subject: Operation in the environment of the MS-DOS operating system

14. To make the copy of the file 1.txt in the same directory, but with the name 1-copy.txt.

15. To transfer the 1-copy.txt file from the directory NEW-A to the directory NEW-B.

16. To be convinced that in the directory NEW-A there was only a file 1.txt.

17. To enter the directory NEW-B and to be convinced that there is a 1-copy.txt file.

18. To rename it in 2.txt.

19. To view file 2.txt contents on the screen.

20. To delete the directories NEW-A and NEW-B together with their contents.

**Task. create a hierarchical file system in the student directory**

 









