**"Kyiv Vocational College of Communication"**

**Cyclic Commission of Computer Engineering**

**EXECUTION REPORT**

**LABORATORY WORK No. 7**

from the discipline: "Operating systems"

**Topic: «Creation of script scenarios and determination of hardware configuration»**

**Performed by students of the group:**

Барабаш Матвій

Погребняк Ілля

Целуйко Станіслав

**Checked by the teacher**

Sushanova V.S.

**The goal of the work:**

1. Getting practical skills for working with the Bash command shell.

2. Getting to know basic actions when working with script scenarios.

**Material provision of classes:**

1. IBM PC type computer.

2. OS family Windows (Windows 7).

3. Virtual machine - Virtual Box (Oracle).

4. GNU/Linux operating system - CentOS.

5. Cisco network academy site netacad.com and its online Linux courses

2)

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| ls | Displays a list of files and directories in the current directory. |
| CD | Moves to the specified directory. |
| pwd | Displays the current directory. |
| mkdir | Creates a directory. |
| rmdir | Deletes the directory if it is empty. |
| cp | Copies a file or directory. |
| mv | Moves a file or directory. |
| rm | Deletes a file or directory. |
| touch | Creates a file. |
| cat | Displays the contents of the file on the screen. |
| more | Displays the contents of the file on the screen in pages. |
| less | Displays the contents of the file on the screen, allowing you to scroll up and down. |
| head | Prints the first few lines of a file. |
| tail | Outputs the last few lines of a file. |
| grep | Finds strings that match a given pattern. |
| sort | Sorts the file by the given key. |
| uniq | Removes duplicate lines from a file. |
| wc | Counts the number of lines, words, and characters in a file. |
| echo | Displays the text on the screen. |
| date | Displays the current date and time. |
| man | Displays the command reference. |
| if | Executes a block of commands if the condition is true. |
| test | Tests the condition. |
| While | Executes a block of commands while the condition is true. |
| for | Executes a block of commands for each element in the set. |
| seq | Generates a sequence of numbers. |
| uname | Displays information about the system. |
| cat /proc/cpuinfo | Displays information about the processor. |
| cat /proc/meminfo | Displays memory information. |
| cat /proc/diskstats | Displays information about disks. |
| cat /proc/network/eth0 | Displays information about the network interface eth0. |
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**Additional teams from laboratory work 12:**

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| dmesg | | Prints the messages that were printed by the kernel. |
| fdisk | | Manages disk partitions |
| mkfs.ext4 | | Creates an EXT4 file system. |
| mount | | Mounts a file system to a directory. |
| umount | | Unmounts a file system from a directory. |
| lsblk | | Lists block devices. |
| lscpu | | Displays information about the processor. |
| lsmem | | Displays memory information. |
| lsdisk | Displays information about disks. | |
| ifconfig | Displays information about network interfaces. | |

**Control Questions**

1. How can scripts handle variables and create branched and looping scripts?

\* In scripts, variables can be processed using the following operators:

- Assignment: variable\_name=value

- Increment/decrement: variable\_name++ variable\_name—

- Comparison: variable\_name == value variable\_name != value variable\_name < value variable\_name > value

- Logical operations: && || ! - If, else, elif operators can be used to create branched scripts.

\* While, for, do...while statements can be used to create cyclic scripts.

2. What is the difference between arch and lscpu commands?

The arch command displays the architecture of the processor on which the system is running. The lscpu command displays more detailed information about the processor, including the number of cores, frequency, bus type, and more.

3. Which command can be used to get information about the status of RAM usage by the current system?

- With the free command, you can get information about the total amount of RAM available for use, as well as how much RAM is currently in use.

4. What commands can be used in the terminal to view the connection status of peripheral devices?

\* To view the connection status of peripheral devices, you can use the following commands:

lsusb - for viewing USB devices

lspci - to view PCI devices

lsmod - for viewing loaded kernel modules

5. What are the features of the gparted screen saver?

\* Gparted is a graphical tool for managing disk partitions. It allows you to perform the following operations:

- Create, delete and resize partitions

- Formatting sections

- Moving sections

- Copying sections

- Masking partitions

- Creation of RAID arrays

- Creation of LVM partitions

\* Additional features:

- Support for partitions on different types of media, including HDD, SSD,

- USB drives, etc.

- Support for various file systems, including ext2, ext3, ext4, FAT32, NTFS, etc.

- Ability to work with partitions on boot disks - Ability to create backup copies of partitions.

**The work was done by Barabash Matviy**

**Ilya Pogrebnyak was looking for material**

**Translated by Tselujko Stanislav**