“Київський фаховий коледж зв’язку”

Циклова комісія Комп’ютерної та програмної інженерії

**ЗВІТ ПО ВИКОНАННЮ**

# **WORK-CASE №5**

з дисципліни: «Операційні системи»

**Тема: «Робота з перефирійним обладнанням у Linux»**

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**Завдання №1  
виконав Панчук О.С.**

1. При роботі з персональним комп’ютером дуже часто виникає необхідність підключати периферійне обладнання. На прикладі принтера та флешки опишіть який механізм має ОС Linux для роботи з ними.

Printer:

**Drivers**: Linux has a wide variety of drivers for different printer models. When you connect a printer, Linux will try to select or offer the user a driver that supports the connected device.

**Multiple printers**: Linux allows multiple printers to be connected and managed simultaneously. The user can choose which printer to use for each print job...

**CUPS (Common Unix Printing System):** CUPS is the standard print management system in many Linux distributions. It allows you to configure and manage printers, send print jobs, monitor print status, and configure print settings.

Flash drive (USB storage device):

**Managing access rights:** Linux stores file permissions on the flash drive, and users must have the appropriate permissions to read and write to the files.

**Security**: If the flash drive contains potentially dangerous files, Linux can detect them and prevent them from being executed.

**USB subsystem**: This part of Linux is responsible for interacting with devices connected to USB ports. When you plug a device such as a USB flash drive into a USB port, Linux automatically detects the device and downloads the necessary drivers (usually built into the system kernel or available in repositories) to interact with it. This makes using a flash drive safe and convenient.

**Automatic mounting:** Many modern Linux distributions automatically mount the flash drive's file system upon detection. This means that users do not need to manually perform mounting operations, such as specifying paths to mount points or using commands in a terminal. The file manager automatically opens the contents of the flash drive, allowing users to work with files conveniently.

**-В чому суть операції монтування, для чого вона використовується та як?**

The essence of the mounting operation in Linux is to connect an external device, such as a flash drive, external hard disk, CD/DVD, or network share, to the operating system's file system. The mount operation is used to make these devices available for reading and writing through a file manager, command line, or other programs. Here's how it's done and what it's used for:detecting a device,detecting a device,mounting a device,Using a device

**-В чому різниця при роботі з периферією у ОС Linux та ОС Windows?**

Drivers:

Linux: Many drivers for various devices are already built into the system kernel or available in repositories. Most devices work out of the box without the need to manually install additional drivers. Also, the Linux community actively supports the development of open source drivers.

Windows: On Windows, you often need to install drivers separately for many devices, especially for third-party hardware. This may require you to search for and download the appropriate drivers from the manufacturer's website.

Print management system:

Linux: On Linux, the primary print management system is CUPS (Common Unix Printing System). It provides more options for configuring and managing printers.

Windows: Windows also has a print management system, but its interface is different from CUPS and may be less flexible in some ways.

Mounting devices:

Linux: In Linux, mounting is used to connect external devices, such as flash drives or external hard drives, to the file system. This allows users to access files on these devices through a file manager.

Windows: On Windows, this process is called "mounting" and usually happens automatically when you plug in a device.

It is licensed and open source:

Linux: Linux is an open source operating system that provides more user control and customization options. Users can influence the development and bug fixes of the system.

Windows: Windows is a commercial operating system and users have limited ability to change and influence the system itself.

**Завдання №2**

**Виконав Петрик С.С**

1. Copy a file from a flash drive to a virtual machine using the graphical interface:

* Connect the flash drive to one of the virtual machine's USB ports.
* On the desktop or in a file manager in Linux, you notice that the flash drive is automatically recognized.
* Open a file manager (for example, Nautilus).
* Navigate to the flash drive that the system recognized and open it to view its contents.
* I found the file I wanted to copy to the virtual machine.
* Selected the file by right-clicking on it and choosing the Copy option from the context menu or by pressing Ctrl+C.
* Navigate to the folder on the virtual machine where I want to save the file.
* Paste the file by right-clicking on the free space and selecting the "Paste" option or by pressing Ctrl+V. The file was copied to the virtual machine.

2. Printing a file through the graphical interface:

* I opened the document I want to print using the appropriate program (for example, Document Viewer for PDF files).
* Select the Print option from the program menu.
* In the print window, select your printer from the list of available printers.
* I set up other print settings that I need, such as the number of copies, paper size, etc.
* Clicked "Print" and my file was sent to the printer and it was printed.

3. There is also an alternative option for copying a file from external media to a virtual machine - a terminal.

Copying a file from a flash drive to a virtual machine via the terminal:

* I made sure that the flash drive was properly connected to the virtual machine.
* Open a terminal on the virtual machine.
* Using the lsblk command, I checked the list of devices to find the flash drive and determine where it was connected.
* I mounted the flash drive to a specific directory, for example:
* sudo mount /dev/sdX1 /mnt/flashdrive
* Using the cp command, I copied the file from the flash drive to the virtual machine, for example:
* cp /mnt/flashdrive/myfile.txt ~/Documents/
* I unmounted the flash drive to disconnect it from the system:
* sudo umount /mnt/flashdrive

Accordingly, there is also a way to print a file on a virtual machine through a terminal

4. Printing the file through the terminal:

* I opened the terminal.
* Using the lp command, I specified the path to the file I want to print, for example:
* lp ~/Documents/myfile.txt
* The printer started printing the file.

Висновки:

In this assignment, we looked at how the Linux operating system interacts with peripherals, such as a printer and a flash drive. Linux provides convenient mechanisms for working with these devices.Now we have a better understanding of how Linux works with peripherals and compare them to similar operations in Windows.