**Work-Case №5**

***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.***

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

*Готував матеріал студент Титов О.*

Mounting is a process by which a computer's operating system makes files and directories on a storage device (such as hard drive, CD-ROM, or network share) available for users to access via the computer's file system. In general, the process of mounting comprises the operating system acquiring access to the storage medium; recognizing, reading, and processing file system structure and metadata on it before registering them to the virtual file system (VFS) component. The location in the VFS to which the newly mounted medium was registered is called a mount point; when the mounting process is completed, the user can access files and directories on the medium from there.

In Linux, the contents of all mounted and internal drives are displayed as folders that are mounted to the root of the file system (/)

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

*Готувала матеріал студентка Усенко С.*

Main difference between Linux peripheral device management and Windows peripheral device management is that in Windows printers, CD-ROMs, hard drives, flash drive etc are considered **devices**, while in Linux peripherals, including printers, CD-ROMs, and hard drives are considered **files**.

So, **everything** is considered a file in UNIX and Linux. The keyboard, mouse, and printer are files, files are files, and directories are files.

Devices such as hard drives, CD-ROMs, and printers use drive letters like H: or G: in Windows. For instance, if there are three primary partitions in the first SATA hard drive, they would be numbered and named /dev/sda1, /dev/sda2, and /dev/sda3. Notice that all of the device files are included in the /dev/ directory.

All file types, including devices, give users permission to execute (run), edit, or read them, which makes this one of Linux’s most powerful features. Permissions can be changed so that access restrictions can be applied to different types of users.

***2. Підключіть до вашої віртуальної машини зі встановленою ОС Linux флешку та принтер (за можливості) та через графічний інтерфейс скопіюйте один файл з флешки на віртуальну машину та роздрукуйте його (такі ж самі дії повторіть, але з іншим файлом через команди в терміналі).***

*Готував матеріал студент Нестолій Н.*

Unfortunately, I can`t connect my printer to virtual machine due to software (driver) incompatibility, so I will just describe process of setup and installation with both graphical and terminal modes.

Graphical:

First of all, you need to connect a flash drive to a virtual machine – start the virtual machine, open the «devices» tab and select the device you need. On modern linux distributions, process of mounting is automatic, so now you can open your flash drive like any other folder on your PC. To connect printer to your virtual machine, Go to Devices -> USB and select the printer. Share the printer and access it in the virtual session. After the USB connection has been established, VirtualBox printer sharing is enabled. The virtual machine will recognize the USB device and allow you to use it as if it were directly connected to your session. Now you can use your printer as you would normally do on any other platform – simply select the file you need to print and click on «print».

Terminal:

Process of printing using terminal is not very hard due to help of VirtualBox – it does most of «Heavy lifting» like connecting printer, setting it up and saving as default printing device.

Connect your flash drive to PC in a similar manner as above, it will be automatically mounted and can be accessed easily. Check the contents of flash drive with **ls** command. Change your working directory to flash drive with **cd** command. Now you can use **lpr** command to print your file, it will use your default printer.