**Work-case 4**

1. В ході роботи досить часто виникає необхідність встановлювати нові програми та додатки. Для цього необхідно в терміналі вміти працювати з менеджерами пакетів:

* Дайте розгорнуте визначення таким поняттям як «пакет» та «репозиторій».
* Надайте короткий огляд існуючих менеджерів пакетів у Linux. Охарактеризуйте їх основні можливості.

1. Визначте який менеджер пакетів використовує ваш дистрибутив Linux. Опишіть основні команди для роботи з ним:

* Пошук, скачування та установка необхідних пакетів, яких у Вашій системі немає (зі сховища по замовчуванню, з нового репозиторію тощо).
* Перегляд інформації про встановлені та доступні пакети.
* Видалення непотрібних або застарілих пакетів.
* Оновлення менеджера пакетів.

1. Встановіть у терміналі через менеджер пакетів на свою систему:

* Новий відео- чи аудіоплейер.
* Середовище для мови програмування, що ви вивчаєте.

1. Яким чином можна встановити нові програми через магазини додатків та менеджери пакетів у графічному середовищі. Наведіть свої приклади.

1.

A Linux repository is a storage location that contains important information for different Linux distributions, and each distribution has its own official repositories. You can manage many packages that support your distribution, and your system can install software from it. A package is a compressed archived software file that contains all the files that come with a software program that provides any functionality, be it any command line utility, GUI application, or software library.   
1) DPK (Debian Package Management System) – Dpkg is the core package management system for the Debian Linux family, it is used to install, remove, store and provide information about .deb packages. This is a low-level tool, and front-end tools exist to help users retrieve packages from remote repositories and/or handle complex package relationships

2) APT (Advanced Package Tool) is a more advanced interface for dpkg (Debian package), the lowest level package management system for Debian-based Linux distributions. APT is a powerful command-line package management tool that provides an interface for better interactive use. Like dpkg, APT can install, remove, and create packages. An advanced feature of APT is that it can update your packages and install dependencies automatically. It is capable of automatically installing and configuring applications for UNIX-like operating systems from precompiled packages and source codes. It also provides command-line tools to find, manage, and query package information.

3) RPM (Red Hat Package Manager) is the standard underlying Linux packaging format and underlying package management system created by RedHat. Being a base system, there are several external package management tools that you can use with it.

4) YUM (Yellow Dog Updater) is the most popular choice as an interface to RPM, the primary package management software for RHEL operating systems. It was created to facilitate distribution updates by tracking dependencies between packages. A command-line interface is used to work with YUM, and there are also tools that provide a graphical interface to YUM's functionality. It allows users to configure automatic software updates and dependency resolution. The YUM manager works with package repositories from the distribution manufacturer or third-party authors. It is possible to create local or offline copies of repositories or access them via the Internet.

5) DNF (Dandified Packaging Tool) is a package manager that installs, updates, and removes packages in RPM-based Linux distributions. This is an advanced version of the YUM manager, intended to replace YUM on RPM-based systems. DNF was created to improve the performance of YUM, the quality of resolution of dependency conflicts, and simplified integration with other applications. DNF was introduced in Fedora 18. It is now the default package manager in Fedora 22, CentOS8 and RHEL8.   
6) Pacman is a high-level package manager for Arch Linux and its related distributions (Manjaro, EndeavorOS, etc.). The program is written in C# and combines high functionality, lightness and performance. The pkg.tar.xz archives are used as packages. Features: Pacman combines the functions of working with repositories and installing packages into the system, unlike Debian or Red Hat systems.

The latest software is installed in the system, thanks to the “rolling-release” update model.

Pacman repositories contain pre-built packages, which greatly speeds up the process of installing programs.

Support for working with the AUR repository