# WORK-CASE №4

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**1. В ході роботи досить часто виникає необхідність встановлювати нові програми та додатки. Для цього необхідно в терміналі вміти працювати з менеджерами пакетів:**
<span style="color:red">**ГОТУВАВ СТУДЕНТ КОШІЛЬ ВЛАДИСЛАВ**</span>

а) **Дайте розгорнуте визначення таким поняттям як «пакет» та «репозиторій».**

**A package** is a collection of files that are grouped together and can be installed on a computer system as a single unit. Packages are commonly used in software distribution to simplify the process of installing and managing software. A package typically includes the software application itself, as well as any necessary libraries, documentation, and configuration files.

**A repository** is a central location where software packages are stored and made available for download or installation. A software repository usually contains a collection of packages, along with metadata about those packages such as version numbers, dependencies, and descriptions. Repositories can be managed locally on a computer or hosted online, and are commonly used in package management systems such as APT, YUM, and Pacman in Linux systems. The use of repositories allows for easy installation, update, and removal of software packages, as well as dependency resolution and security updates.

б) **Надайте короткий огляд існуючих менеджерів пакетів у Linux. Охарактеризуйте їх основні можливості.**

**APT** is a command-line package manager used in Debian-based Linux distributions like Ubuntu and Linux Mint. It is known for its user-friendly interface and ability to automatically manage dependencies. APT also supports software installation from repositories, as well as the ability to download and install software packages manually.

**YUM** is a command-line package manager used in Red Hat-based Linux distributions like CentOS and Fedora. It has a simple syntax and supports automatic dependency resolution, as well as the ability to download and install software packages from repositories.

**Pacman** is a command-line package manager used in Arch Linux and its derivatives. It is known for its fast and efficient package management system and supports automatic dependency resolution. Pacman also has a simple syntax and supports installing software packages from repositories, as well as the ability to download and install software packages manually.

**Zypper** is a command-line package manager used in SUSE Linux distributions like OpenSUSE. It supports automatic dependency resolution and the ability to install software packages from repositories, as well as the ability to download and install software packages manually. Zypper also supports rollback of package installations and updates.

**DNF** is a command-line package manager used in newer versions of Red Hat-based Linux distributions like Fedora and CentOS. It is designed to be a faster and more efficient version of YUM, with improved dependency resolution and package management capabilities. DNF supports installation of software packages from repositories, as well as the ability to download and install software packages manually.

**2. Визначте який менеджер пакетів використовує ваш дистрибутив Linux. Опишіть основні команди для роботи з ним:**
ГОТУВАВ СТУДЕНТ ФЕЩЕНКО ЭВГЕНІЙ

а) **Пошук, скачування та установка необхідних пакетів, яких у Вашій системі немає (зі сховища по замовчуванню, з нового репозиторію тощо).**

To search for a package in the default repository, use the following command:
```
sudo apt search package_name
```

To download and install a package from the default repository, use:
```
sudo apt install package_name
```

To add a new repository and install a package from it, use:
```
sudo add-apt-repository repository_url
sudo apt update
sudo apt install package_name
```

б) **Перегляд інформації про встановлені та доступні пакети.**

To view information about installed packages, use:
```
dpkg -l
```

To view information about available packages in the default repository, use:
```
apt-cache search package_name
```

To view detailed information about an available package, use:
```
apt-cache show package_name
```

в) **Видалення непотрібних або застарілих пакетів.**

To uninstall a package, use:
```
sudo apt remove package_name
```

To remove a package and its configuration files, use:
```
sudo apt purge package_name
```

г) **Оновлення менеджера пакетів.**

To update the package manager and the list of available packages, use:
```
sudo apt update
```

To upgrade all installed packages to their latest version, use:

```
sudo apt upgrade
```

To upgrade the distribution to the latest version, use:

```
sudo apt dist-upgrade
```