

## 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:**

**ГОТУВАВ СТУДЕНТ КОШІЛЬ ВЛАДИСЛАВ**

**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 ЗВГЕНІЙ**

**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**

### 3. Встановіть у терміналі через менеджер пакетів на свою систему:

**ГОТУВАВ СТУДЕНТ КОШІЛЬ ВЛАДИСЛАВ**

#### а) Новий відео- чи аудіоплеєр.

1.Open a terminal window on your Linux system.

2.Update the package manager by running the following command:

**sudo apt update**

```
Get:4 http://security.ubuntu.com/ubuntu kinetic-security InRelease [109 kB]
Get:5 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main amd64 Packages [375 kB]
Get:6 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main i386 Packages [194 kB]
Get:7 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main Translation-en [101 kB]
Get:8 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main amd64 DEP-11 Metadata [85,6 kB]
Get:9 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main DEP-11 48x48 Icons [18,5 kB]
Get:10 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main DEP-11 64x64 Icons [27,7 kB]
Get:11 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/main amd64 c-n-f Metadata [8 408 B]
Get:12 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/restricted i386 Packages [25,6 kB]
Get:13 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/restricted amd64 Packages [248 kB]
Get:14 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe i386 Packages [135 kB]
Get:15 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe amd64 Packages [260 kB]
Get:16 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe Translation-en [98,8 kB]
Get:17 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe amd64 DEP-11 Metadata [41,4 kB]
Get:18 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe DEP-11 48x48 Icons [27,6 kB]
Get:19 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe DEP-11 64x64 Icons [50,7 kB]
Get:20 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/universe amd64 c-n-f Metadata [8 984 B]
Get:21 http://ua.archive.ubuntu.com/ubuntu kinetic-updates/multiverse amd64 DEP-11 Metadata [212 B]
Get:22 http://ua.archive.ubuntu.com/ubuntu kinetic-backports/universe i386 Packages [3 164 B]
Get:23 http://ua.archive.ubuntu.com/ubuntu kinetic-backports/universe amd64 Packages [4 236 B]
Get:24 http://ua.archive.ubuntu.com/ubuntu kinetic-backports/universe amd64 DEP-11 Metadata [10,5 kB]
Get:25 http://ua.archive.ubuntu.com/ubuntu kinetic-backports/universe amd64 c-n-f Metadata [196 B]
Get:26 http://security.ubuntu.com/ubuntu kinetic-security/main amd64 Packages [263 kB]
Get:27 http://security.ubuntu.com/ubuntu kinetic-security/main i386 Packages [120 kB]
Get:28 http://security.ubuntu.com/ubuntu kinetic-security/main amd64 DEP-11 Metadata [30,1 kB]
Get:29 http://security.ubuntu.com/ubuntu kinetic-security/main amd64 c-n-f Metadata [6 120 B]
Get:30 http://security.ubuntu.com/ubuntu kinetic-security/universe amd64 Packages [149 kB]
Get:31 http://security.ubuntu.com/ubuntu kinetic-security/universe i386 Packages [93,5 kB]
Get:32 http://security.ubuntu.com/ubuntu kinetic-security/universe amd64 DEP-11 Metadata [7 868 B]
Get:33 http://security.ubuntu.com/ubuntu kinetic-security/universe amd64 c-n-f Metadata [6 772 B]
Fetched 2 727 kB in 2s (1 408 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
191 packages can be upgraded. Run 'apt list --upgradable' to see them.
quadfordt@Ubuntu:~$
```

3.Search for the video or audio player you want to install using the following command:

**sudo apt search player\_name**

```
vlc-plugin-fluidsynth/kinetic 3.0.17.4-5 amd64
  FluidSynth plugin for VLC

vlc-plugin-jack/kinetic 3.0.17.4-5 amd64
  JACK audio plugins for VLC

vlc-plugin-notify/kinetic 3.0.17.4-5 amd64
  LibNotify plugin for VLC

vlc-plugin-pipewire/kinetic 3-2 amd64
  PipeWire audio plugins for VLC

vlc-plugin-qt/kinetic 3.0.17.4-5 amd64
  multimedia player and streamer (Qt plugin)

vlc-plugin-samba/kinetic 3.0.17.4-5 amd64
  Samba plugin for VLC

vlc-plugin-skins2/kinetic 3.0.17.4-5 amd64
  multimedia player and streamer (Skins2 plugin)

vlc-plugin-svg/kinetic 3.0.17.4-5 amd64
  SVG plugin for VLC

vlc-plugin-video-output/kinetic 3.0.17.4-5 amd64
  multimedia player and streamer (video output plugins)

vlc-plugin-video-splitter/kinetic 3.0.17.4-5 amd64
  multimedia player and streamer (video splitter plugins)

vlc-plugin-visualization/kinetic 3.0.17.4-5 amd64
  multimedia player and streamer (visualization plugins)

x264/kinetic 2:0.164.3095+gitbaee400-2build1 amd64
  video encoder for the H.264/MPEG-4 AVC standard

quadfordt@Ubuntu:~$ _
```

This command will show you a list of packages related to the player you searched for.

4.Choose the package you want to install and run the following command to install it:

**sudo apt install package\_name**

```

Preparing to unpack .../066-libfaad2_2.10.0-2_amd64.deb ...
Unpacking libfaad2:amd64 (2.10.0-2) ...
Selecting previously unselected package libixml10:amd64.
Preparing to unpack .../067-libixml10_1%3a1.8.4-2ubuntu2_amd64.deb ...
Unpacking libixml10:amd64 (1:1.8.4-2ubuntu2) ...
Selecting previously unselected package libkate1:amd64.
Preparing to unpack .../068-libkate1_0.4.1-11build1_amd64.deb ...
Unpacking libkate1:amd64 (0.4.1-11build1) ...
Selecting previously unselected package liblua5.2-0:amd64.
Preparing to unpack .../069-liblua5.2-0_5.2.4-2_amd64.deb ...
Unpacking liblua5.2-0:amd64 (5.2.4-2) ...
Selecting previously unselected package libmad0:amd64.
Preparing to unpack .../070-libmad0_0.15.1b-10ubuntu1_amd64.deb ...
Unpacking libmad0:amd64 (0.15.1b-10ubuntu1) ...
Selecting previously unselected package libmatroska7:amd64.
Preparing to unpack .../071-libmatroska7_1.6.3-2_amd64.deb ...
Unpacking libmatroska7:amd64 (1.6.3-2) ...
Selecting previously unselected package libmpcdec6:amd64.
Preparing to unpack .../072-libmpcdec6_2%3a0.1~r495-2_amd64.deb ...
Unpacking libmpcdec6:amd64 (2:0.1~r495-2) ...
Selecting previously unselected package libmpeg2-4:amd64.
Preparing to unpack .../073-libmpeg2-4_0.5.1-9_amd64.deb ...
Unpacking libmpeg2-4:amd64 (0.5.1-9) ...
Selecting previously unselected package libmysofa1:amd64.
Preparing to unpack .../074-libmysofa1_1.2.1~dfsg0-1_amd64.deb ...
Unpacking libmysofa1:amd64 (1.2.1~dfsg0-1) ...
Selecting previously unselected package libopenmpt-modplug1:amd64.
Preparing to unpack .../075-libopenmpt-modplug1_0.8.9.0-openmpt1-2_amd64.deb ...
Unpacking libopenmpt-modplug1:amd64 (0.8.9.0-openmpt1-2) ...
Selecting previously unselected package libplacebo192:amd64.
Preparing to unpack .../076-libplacebo192_4.192.1-1_amd64.deb ...
Unpacking libplacebo192:amd64 (4.192.1-1) ...
Selecting previously unselected package libpostproc56:amd64.
Preparing to unpack .../077-libpostproc56_7%3a5.1.1-1ubuntu2.1_amd64.deb ...
Unpacking libpostproc56:amd64 (7:5.1.1-1ubuntu2.1) ...

Progress: [ 32%] [#####.....]

```

5.Wait for the installation process to complete. The package manager will download and install all the necessary files and dependencies for the video or audio player.

```

Setting up libupnp13:amd64 (1:1.8.4-2ubuntu2) ...
Setting up libavutil57:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up vlc-plugin-visualization:amd64 (3.0.17.4-5) ...
Setting up vlc-plugin-access-extra:amd64 (3.0.17.4-5) ...
Setting up libegl-mesa0:amd64 (22.2.5-0ubuntu0.1) ...
Setting up libswresample4:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up va-driver-all:amd64 (2.15.0-1) ...
Setting up vdpau-driver-all:amd64 (1.5-1) ...
Setting up libvlc-bin:amd64 (3.0.17.4-5) ...
Setting up libopenmpt-modplug1:amd64 (0.8.9.0-openmpt1-2) ...
Setting up libpostproc56:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up libavcodec59:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up libswscale6:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up vlc-plugin-video-output:amd64 (3.0.17.4-5) ...
Setting up libchromaprint1:amd64 (1.5.1-2build1) ...
Setting up libglx-mesa0:amd64 (22.2.5-0ubuntu0.1) ...
Setting up libavformat59:amd64 (7:5.1.1-1ubuntu2.1) ...
Setting up libqt5gui5:amd64 (5.15.6+dfsg-1) ...
Setting up vlc-bin (3.0.17.4-5) ...
Setting up libqt5widgets5:amd64 (5.15.6+dfsg-1) ...
Setting up qt5-gtk-platformtheme:amd64 (5.15.6+dfsg-1) ...
Setting up vlc-plugin-base:amd64 (3.0.17.4-5) ...
Setting up libqt5x11extras5:amd64 (5.15.6-1) ...
Setting up libqt5svg5:amd64 (5.15.6-1) ...
Setting up vlc-plugin-qt:amd64 (3.0.17.4-5) ...
Setting up vlc (3.0.17.4-5) ...
Setting up vlc-plugin-skins2:amd64 (3.0.17.4-5) ...
Processing triggers for libc-bin (2.36-0ubuntu4) ...
Processing triggers for man-db (2.10.2-2) ...
Processing triggers for mailcap (3.70+nmulubuntu1) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu4) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for libvlc-bin:amd64 (3.0.17.4-5) ...

```

6. Once the installation is complete, you can launch the video or audio player from the Applications menu or by running the command in the terminal:

**player\_name**

#### б) Середовище для мови програмування, що ви вивчаєте.

Here we do the same steps as in the last paragraph.

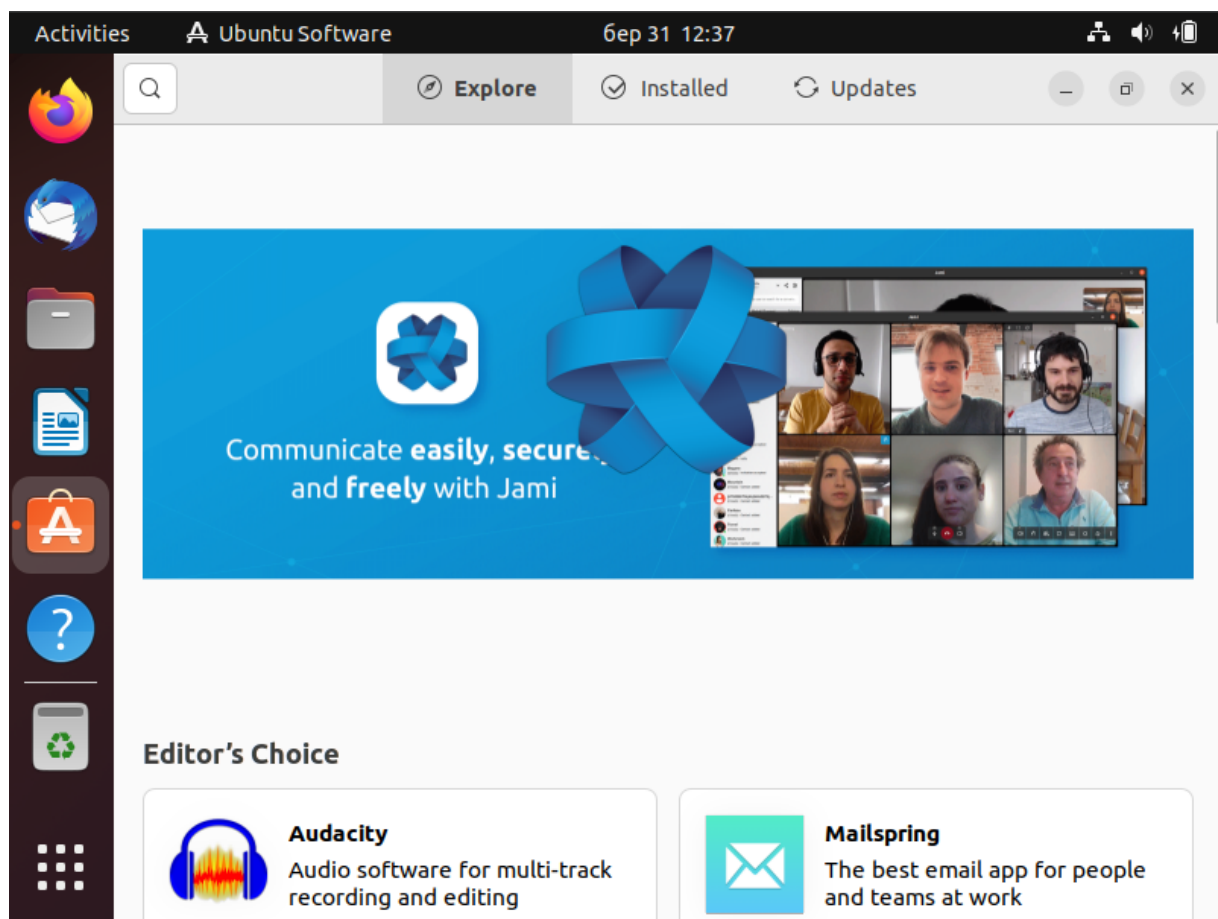
```
Font-editing application
tz-converter/kinetic,kinetic 1.0.1-1 all
  Convert the time and date across time zones
units/kinetic 2.21-2 amd64
  converts between different systems of units
uwsgi-plugin-asyncio-python3/kinetic 2.0.20-4 amd64
  asyncio plugin for uWSGI (Python 3)
uwsgi-plugin-gevent-python3/kinetic 2.0.20-4 amd64
  gevent plugin for uWSGI (Python 3)
uwsgi-plugin-greenlet-python3/kinetic 2.0.20-4 amd64
  greenlet plugin for uWSGI (Python 3)
uwsgi-plugin-python3/kinetic 2.0.20-4 amd64
  WSGI plugin for uWSGI (Python 3)
uwsgi-plugin-tornado-python3/kinetic 2.0.20-4 amd64
  tornado plugin for uWSGI (Python 3)
yorick-svipc/kinetic 0.16-5build5 amd64
  interprocess communication (shared memory...) for Yorick
zsnapped/kinetic,kinetic 0.8.12-1 all
  ZFS Snapshot Daemon written in python

quadfordt@Ubuntu:~$ sudo apt install python3
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3 is already the newest version (3.10.6-1).
python3 set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 183 not upgraded.
quadfordt@Ubuntu:~$
```

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

**ГОТУВАВ СТУДЕНТ ФЕЩЕНКО ЗВГЕНІЙ**

To install packages through the graphical shell, you need to open the **Ubuntu Software**.



And then search for app you want to download

