**Work-case 4  
робила студентка Андрущик Поліна**  
1. In the course of work, it is often necessary to install new programs and applications. To do this, you need to be able to work with package managers in the terminal:  
- Give a detailed definition of such concepts as "package" and "repository".  
- Provide a brief overview of existing package managers in Linux. Describe their main capabilities.  
  
-**A package** **is** a structured unit of software that contains executable code, libraries, configuration files, and other necessary resources required for the correct operation of a program or component. It is usually packaged in a specific archive format that can be easily unpacked and installed on the system. Packages allow you to conveniently distribute and install software on different computers or servers.  
**-A repository is** a centralized repository of software packages that stores different versions of software for a particular operating system or distribution. A repository usually contains packages along with metadata such as version, description, dependencies, and a digital signature, which allows the integrity and authenticity of the packages to be verified. Users can use repositories to find, download, and install software using package managers or other package management tools.  
  
**APT (Advanced Package Tool):**APT is the default package manager in Debian-derived distributions such as Ubuntu. It provides a convenient command-line interface for installing, updating, and removing packages. APT automatically resolves dependencies, making package management easy.

**YUM (Yellowdog Updater, Modified):**  
YUM is used in Red Hat-based distributions such as CentOS and Fedora. It allows you to install, update and remove packages from repositories. YUM also automatically resolves dependencies and allows advanced package management operations.

**dnf (Dandified YUM):**dnf is the successor to YUM in newer Fedora distributions. It has a similar interface and functionality to YUM, but with improved speed and efficiency.

**Pac Man:**  
Pacman is used in the Arch Linux distribution and other Arch-based distributions. It allows you to quickly install, update, and remove packages, as well as manage configuration files.

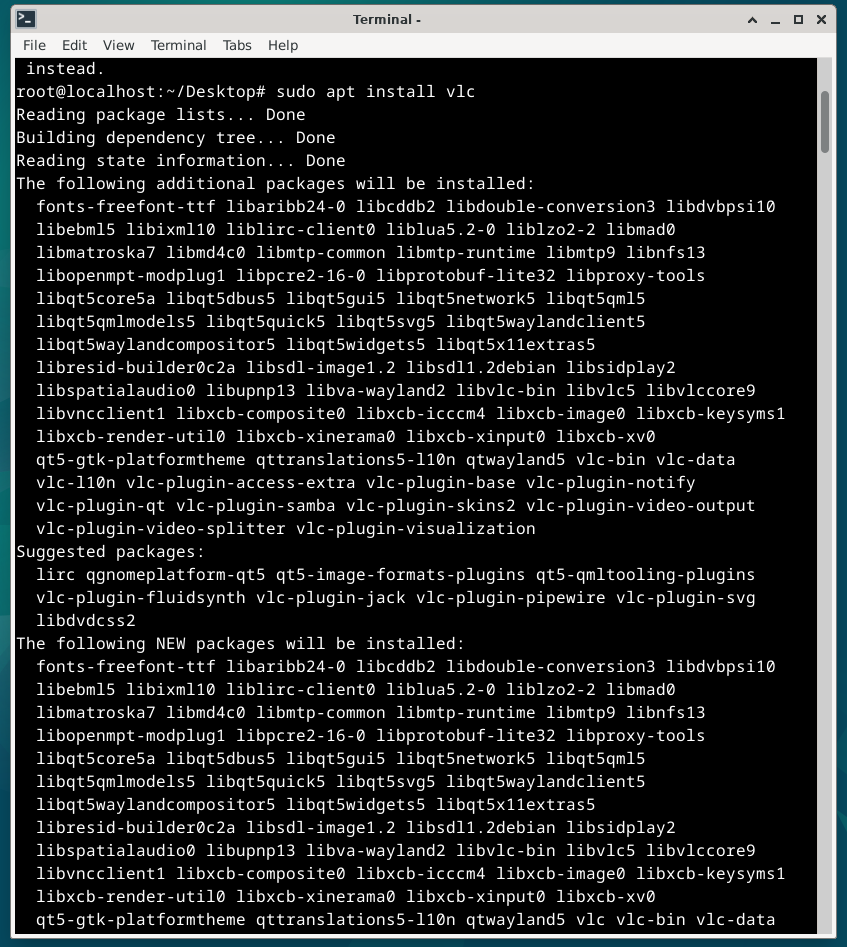
**ZYpp (ZENworks Package Management):**ZYpp is a package manager used in SUSE Linux distributions such as openSUSE. It offers a command line interface and a graphical interface for managing packages.

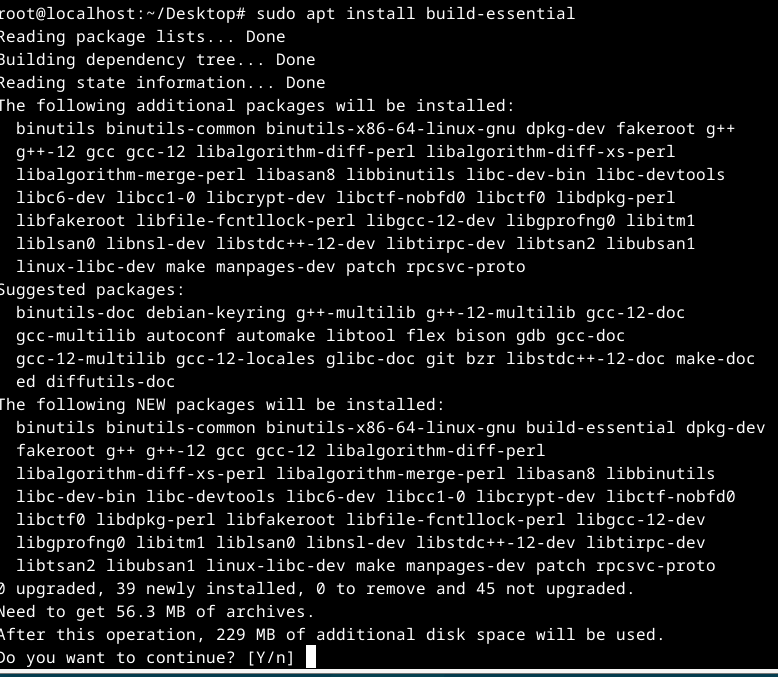
2. Determine which package manager your Linux distribution uses. Describe the main commands for working with it:  
- Search, download and install necessary packages that are not in your system (from the default repository, from a new repository, etc.).  
- View information about installed and available packages.  
- Removal of unnecessary or outdated packages.  
- Update package manager.

**APT (Advanced Package Tool):**  
**Search, download and install packages:**Search for a package: apt search package\_name  
Install package: sudo apt install package\_name  
If you want to install multiple packages, specify their names with a space after the install command.  
  
**View package information:**Information about installed packages: apt list –installedInformation about available upgrades: apt list –upgradablePackage details: apt show package\_name  
 **Removing packages:**Remove a package: sudo apt remove package\_name  
Deleting a package along with its settings: sudo apt purge package\_name  
  
**Update the package manager:**  
Update the package list: sudo apt update  
Update installed packages to the latest versions: sudo apt upgrade  
Update all installed packages and their dependencies: sudo apt full-upgrade

**РОБИВ БУРБАН ДАНИЛО**

3. Встановіть у терміналі через менеджер пакетів на свою систему:  
- Новий відео- чи аудіоплейер.  
- Середовище для мови програмування, що ви вивчаєте.



The environment in which I study C++  
4. Яким чином можна встановити нові програми через магазини додатків та менеджери пакетів у графічному середовищі. Наведіть свої приклади.  
 **In Debian 12, you can use graphical interfaces to install new programs. Here's an example of the GNOME Software graphical interface:**

1. **Open the applications menu and find "GNOME Software" or simply type it in the search bar.**
2. **In GNOME Software, you can navigate to the "Installed" tab to view installed programs or the "Browse" tab to search for new ones.**
3. **To install a program, simply find it, select it, and click on "Install."**