WORK-CASE 4

Виконали:

Команда “Рафаельки”

Малишко Анна Олексіївна

Гачка Вікторія Романівна

Виконала Малишко Анна

**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».*

***A package***

**A package** is, in fact, an archive with an executable file. Of course, it describes the rules for launching, special files, etc. All this is managed by a package manager that can install, run, remove and update all packages.

**The package manager** installs dependencies for these same packages (the ones without which your program will not work). And imagine there is Firefox, and there is LibreOffice, they use the same dependencies, and all such dependencies together weigh, for example, 15MB. In Windows, each such program has duplicates of such dependencies. And instead of FireFox and LibreOffice together occupying, for example, 240MB, Windows will occupy 350MB. While on Linux Firefox and LibreOffice will use the same dependency without making duplicates. Also, the packages contain different information. Name, version, developer, type, etc. Perhaps this all seems complicated, but in fact it greatly simplifies system management (which is why Windows can take up half of the disk).

***Repository***

**Repository-** a place where any data is stored and maintained. some data in the repository is stored in the form of files available for further distribution on the network. Repositories are divided into **official and unofficial**. Most Linux distributions. have official repositories.

The Programs and Updates (Application Sources) program in the Ubuntu Software tab is used to manage official repositories.

All changes: updating software packages; changes in the security system; kernel updates, bug fixes, etc. contributed to these repositories by Ubuntu developers. the user receives through the regular update of the distribution - Application update. Periodically, the system automatically reviews all repositories registered in it and downloads new indexes.

Add-ons displayed in the Ubuntu Program Manager are also in the official repositories, which means that they have been tested for compatibility and security, and can be installed on the system at any time (as needed).

Unofficial repositories include repositories of package / package files created by ordinary users, so-called Custom Repositories

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

**RPM (RPM Package Manager)** is a manager of RPM packages in Red Hat-like systems. Allows you to install, uninstall, and update software.

**The main advantages of RPM include the following:**

* This dispatcher is common. Many Linux distributions can install RPM packages or use the RPM format as their own file packaging format. In addition, RPM is ported to many other operating systems.
* It allows you to install RPM packages using one teams It can be installed automatically because the RPM format is designed to run without application maintenance. You can also remove or update a package with one command.
* Ability to work with one file. The RPM package is stored in a single file, making it easy to transfer the package from one system to another.
* RPM automatically checks for dependencies. An RPM system includes a database of all user-installed packages, along with information about exactly what each package provides to the system and what the requirements are for each package.
* RPM packages are designed to form executable files from source, allowing the user to reproduce the assembly. The RPM manager supports Linux OS facilities, such as the patch command, to make changes to the program code during the compilation process

**APT ( Advanced Packaging Tool )** is a utility on Debian-like systems that installs, updates packages, and tracks their dependencies. The purpose of creating the program was to automate the process of managing packages, in particular, updating and maintaining dependencies, which in the case of direct work with the dpkg manager was done manually. Package manipulation is done directly using the apt-get program.

**Утиліта Apt-get:**

* To get a list of commands and their parameters, the command supports: apt-get help
* Apt-get, the update command to update the local package list, resynchronize the package index files from their sources specified in /etc/apt/sources.list, use the apt-get command with the update key
* Apt-get, install command-install or update packages. apt-get, remove the package, leaving the configuration files. In order to remove the package without removing the configuration files, use the remove command
* Apt-get, free up disk space. To release a certain amount disk space, you can delete the downloaded deb packages from the local storage
* Apt-get, download only the source code of the package. To download source code of a certain package, use the --download-only source key with the name of the corresponding package

**Yum (Yellow dog Updater, Modified)** is an open source package manager on Red Hat-like systems. It was created to facilitate the process of updating the system by taking into account the interrelationships of packages. Also, Yum searches for RPM packages in repositories, installs them, tracks dependencies between packages, removes unused packages, and downgrades (rolling back the package version to the previous one).

By default, the manager is managed through the console, but it is possible to install additional components to work through the graphical interface (PackageKit).

**The Aptitude package manager** is very similar to APT and offers much of the same functionality. But it can offer a few additional features such as safe updates that allow users to update their packages without removing existing packages from the system. There is also packet retention that prevents automatic updating some packages. Whether or not to use aptitude or apt-get in the examples is just a matter of habit.

**Here is a list of commands and their purpose for working with the Aptitude package manager:**

* $ aptitude install package # install the package.
* $ aptitude safe-upgrade package # upgrade the package.
* $ aptitude update # check and install updates.
* $ aptitude remove package # remove the package.
* $ aptitude purge package # delete package with ends, all data and settings.
* $ apt-get dist-upgrade # update OS, killer-feature and it works!
* $ aptitude search package # search package.
* $ apt-cache depends package # package dependencies.
* $ apt-cache rdepends package # reverse dependencies on packages

**Synaptic** ‒ a package manager that is a graphical shell for Linux package management utilities ‒ searching for, installing, updating, and uninstalling packages. The utility allows you to track dependencies, and when you remove the main package, you can also remove dependent packages.

You can also launch the Synaptic package from the System main menu through the Administration → Synaptic package manager section. At the same time, you must have administrator rights and enter a password

2. 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.

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

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

To install packages through the graphical shell, you need to open the "Ubuntu Software" application. Next, click on the search icon. And enter the name of the required application By clicking on the desired application, the page of this application will be displayed, where you can install it by pressing the "Install" button. There is also an option through the terminal: enter the command apt install <name> And to the question "whether to start the installation" we answer y