**Software Concepts**

**Definition of software**

Software is a set of programs which makes hardware work

**Categories of software (differences, examples)**

Application software and system software. Application software can’t work without system software. Application software is for user. System software is designed for computer-centric tasks (operating system, programming software, utility software, device drivers)

**Programming software**

Programming languages, translation programmes (compiler and interpreter) and programs to fix bugs

**Utility software**

Add functionality, to perform specific tasks, analyze, optimize, maintain a computer. Kaspersky, Disk Defragmentation.

**Device drivers**

Establish connection between computer and peripheral devices.

**Operating systems (definitions, tasks, types)**

It controls all operations within the computer. It loads only kernel into RAM which provides memory management and file access functions. Startup routine.

CLI and GUI

Types: Windows, Linux, Mac

Tasks:

1. Manage the processor (execute instructions simultaneously)
2. Allocate memory (manage RAM) for running programs, ensure the data is not leaked to other programs
3. Keep track of empty and filled space on hard disk
4. Manage drivers (communication to peripheral devices)
5. Establish basic elements of the GUI (WIMP – Windows Icons Menus Pointers)

Helps user communicate with computer

Interface-a way of communication between the user and computer

**Software installation basics**

Copy files, unzip files, check resources, select device drivers, find players, update registry, update desktop

Select download link, if trusted website and antivirus, click the run button, wait for download to finish, read license agreement, select a folder where to install application, wait for installation and verify it works

**Pros and cons of using open-source and proprietary software**

**Software protection: copyright, license agreements and software licenses**

**Basic maintenance: troubleshooting hardware/software problems in a computer**

**Software piracy (not needed)**