ITEC102 – INFORMATION TECHNOLOGIES

LECTURE 4 – OPERATING SYSTEMS AND APPLICATION SOFTWARE

EASTERN MEDITERRANEAN UNIVERSITY

SCHOOL OF COMPUTING AND TECHNOLOGY

Aim of the course

Aim of this course to have information about,

- o Operating systems,
- o Types of operating systems,
- o Microsoft Windows 10 operating system,
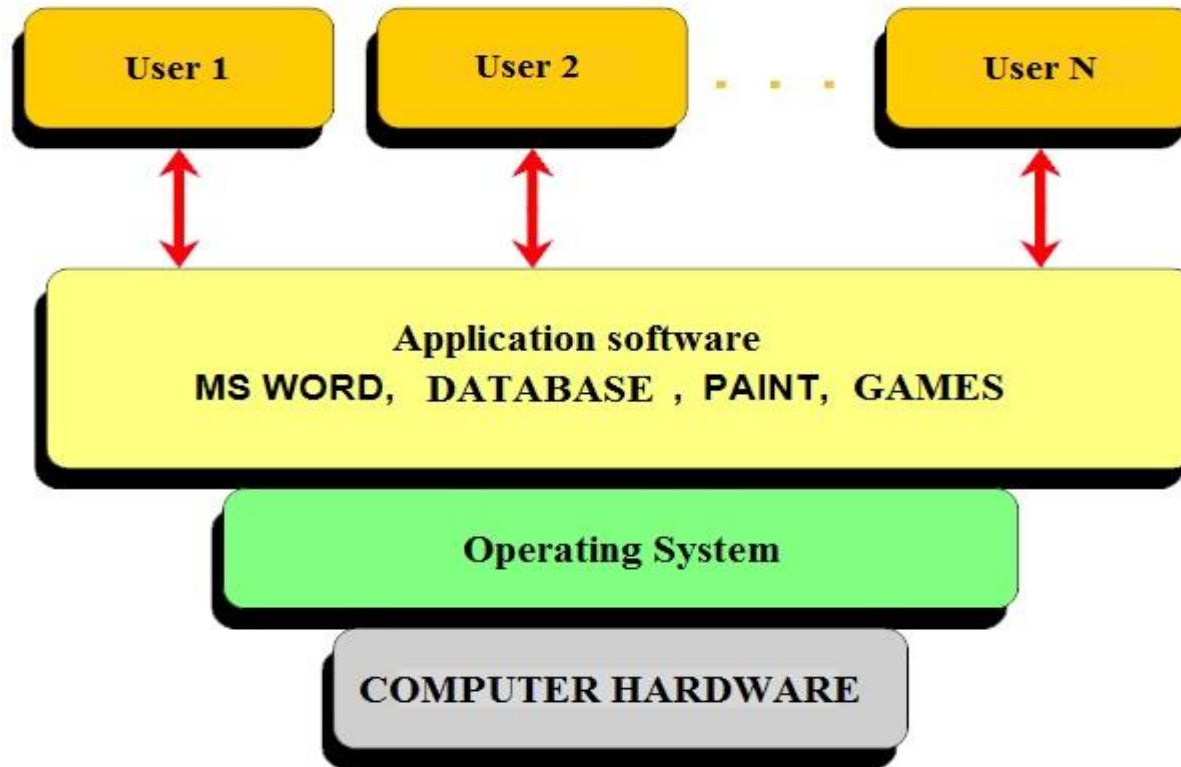- o Other operating systems,
- o Aplication software.

Operating system

- **Operating system**
  - It is the system software that is responsible for communicating between the computer user and the computer that makes up the computer and running the application programs.
  - It interpreting all information for the computer and the application software according to the user entered data and produce the expected result.
  - It checks, evaluates and ensures error-free operation of system resources to do these things.
  - In other words, it organizes the communication between all the hardware and software resources that make up the computer system.

Operating System

SCHEMATIC DIAGRAM OF COMPUTER SYSTEM

Operating System

- The most important examples of operating systems are the software developed by the **Microsoft**, **Linux** and **Macintosh** groups.

- Today, on personal computers, the Windows operating system of the Microsoft group is the most widely used operating system in the world.

- Ubuntu and Pardus are examples of Linux operating systems, and MAC OS X is an example of a Macintosh system.

Operating Systems

- **Mobile operating systems** are used in mobile devices such as mobile phones and tablets..

- Android and iOS are examples of these operating systems.

Types of Operating Systems

➢Operating systems are generally divided into four groups according to the type of computer they control and the types of applications they support:

o **Real time operating systems**

o **Single user – single tasker**

o **Single user – multi tusker**

o **Multi user operating system**

Types of Operating Systems

- **Real Time**
  - This type of operating system is generally used to control computers in the industrial and large enterprises and systems connected to the computers.
  - In such an operating system, the user interface capacity is rather limited. It ensures that the operations are done in the same format and standard every time. Otherwise, faulty production will occur.
  - Different and complex resources are managed in a coordinated way to ensure that products or services can be produced at the same time without disruption.
  - **LynxOS** is a sample for real time operating system.
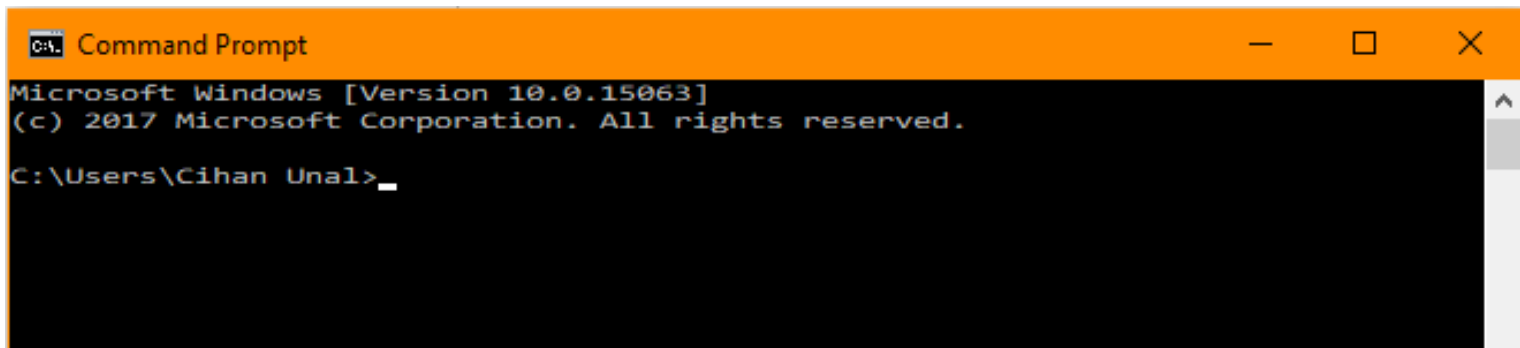
Types of Operating Systems

➤ **Single user – single tasker**

o This type of operating system makes it possible for a single user to perform a single operation every time

o Controls the computers used to perform less complex operations than other types of operating systems.

o **The DOS (Disk Operating System)** operating system is an example of such operating systems.


```
Command Prompt                              —    □    ×

Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Cihan Unal>_
```

Types of Operating Systems

- **Single user – multi tasker**
  - On personal computers, it is the most common type of operating system.
  - Users can perform more than one program and operation at the same time.
  - For example, when you write a report with a word processing program, you can browse a file on the Internet, or at the same time you can create a presentation with a presentation program.
  - Windows 7, Windows 8 ve Windows 10 operating systems can be given as an example

Types of Operating Systems

- **Multiuser**
  - It is the type of operating system that enables many different users to enjoy the same and uninterrupted use of computer resources
  - The multi-user operating system manages system resources so that different user requests are controlled, queued, and balanced for different operations.
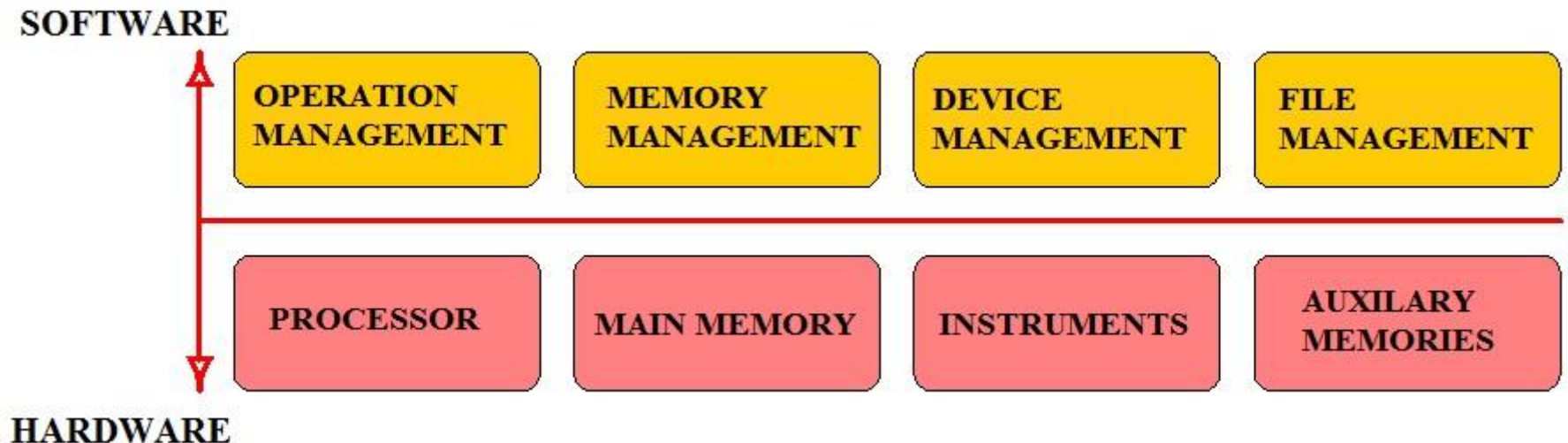 - The **Linux** operating system is an example of multi-user operating systems.
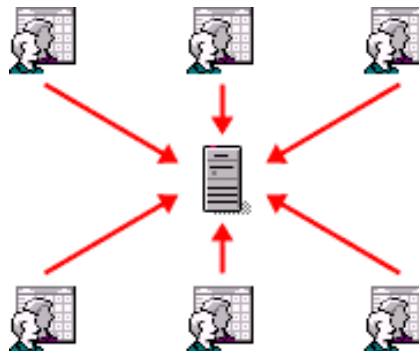
Tasks of the Operating System

- **Memory Management:** It controls and organizes memory. By checking the full and empty parts of the memory, it separates the necessary memory for processing and empties this memory when the operation is finished.

- **Process Management**: Allows the execution of given operations in a specific order and time.

- **I / O Management**: Controls the exchange of data between the computer and input / output units (such as printer, mouse, scanner).

- **File Management:** Manages the work related to the files that data are stored in. It manages operations such as file access, writing and reading.

Tasks of the Operating System

- Each module of the operating system monitors and controls specific computer hardware components.

SOFTWARE

OPERATION MANAGEMENT	MEMORY MANAGEMENT	DEVICE MANAGEMENT	FILE MANAGEMENT
PROCESSOR	MAIN MEMORY	INSTRUMENTS	AUXILARY MEMORIES

HARDWARE

Windows 10

- **Microsoft Windows 10**, officially went on the market in July 2015.

- Cortana is a virtual assistance service created by Microsoft for Windows 10, Windows 10 mobile and Windows Phone 8.1.

- Cortana can set reminders, recognize natural voice without the requirement for keyboard input, and answer questions using information from the Bing search engine.

- The new browser Microsoft Edge has also replaced internet explorer as the default web browser on all device classes with Microsoft Windows 10.

Windows 10

- **The desktop** is like a work desk. You can place frequently used files and programs shortcuts here.
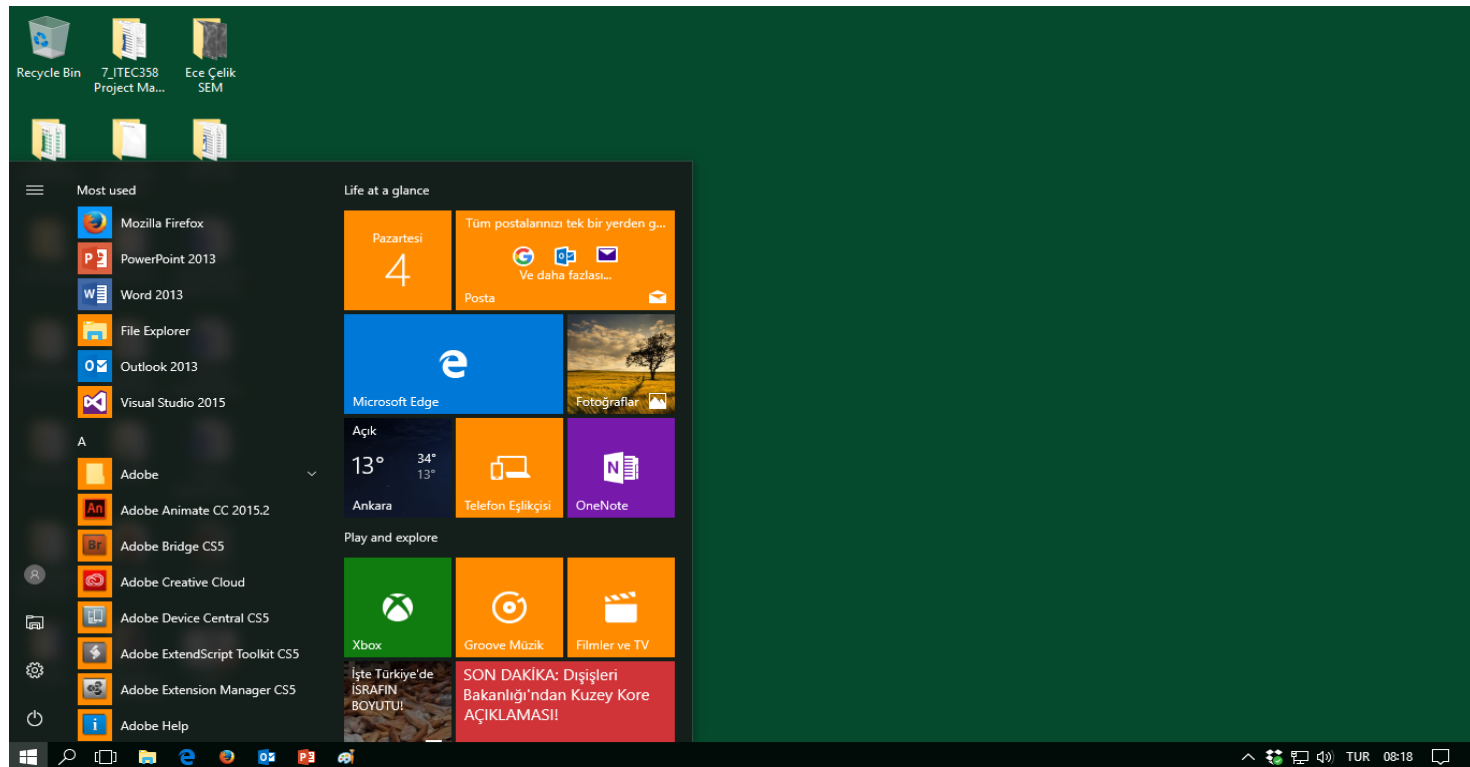
Windows 10

- **The taskbar** is the long horizontal bar at the bottom of the screen.

- It consists of 3 main parts:
  - Start Button
  - middle section showing which programs and files are open
  - clock, battery status, etc. notification area where information such as

Taskbar

Windows 10

➢ The **start button** is usually at the bottom left corner of the screen

Start button

➢ The **Start menu** is like the entrance door to your computer. It is an area where you can start programs available on your computer, get help, search for files or folders.

Windows 10

•The start menu will open when you click the Start button.

•This menu will automatically list the most frequently used programs.
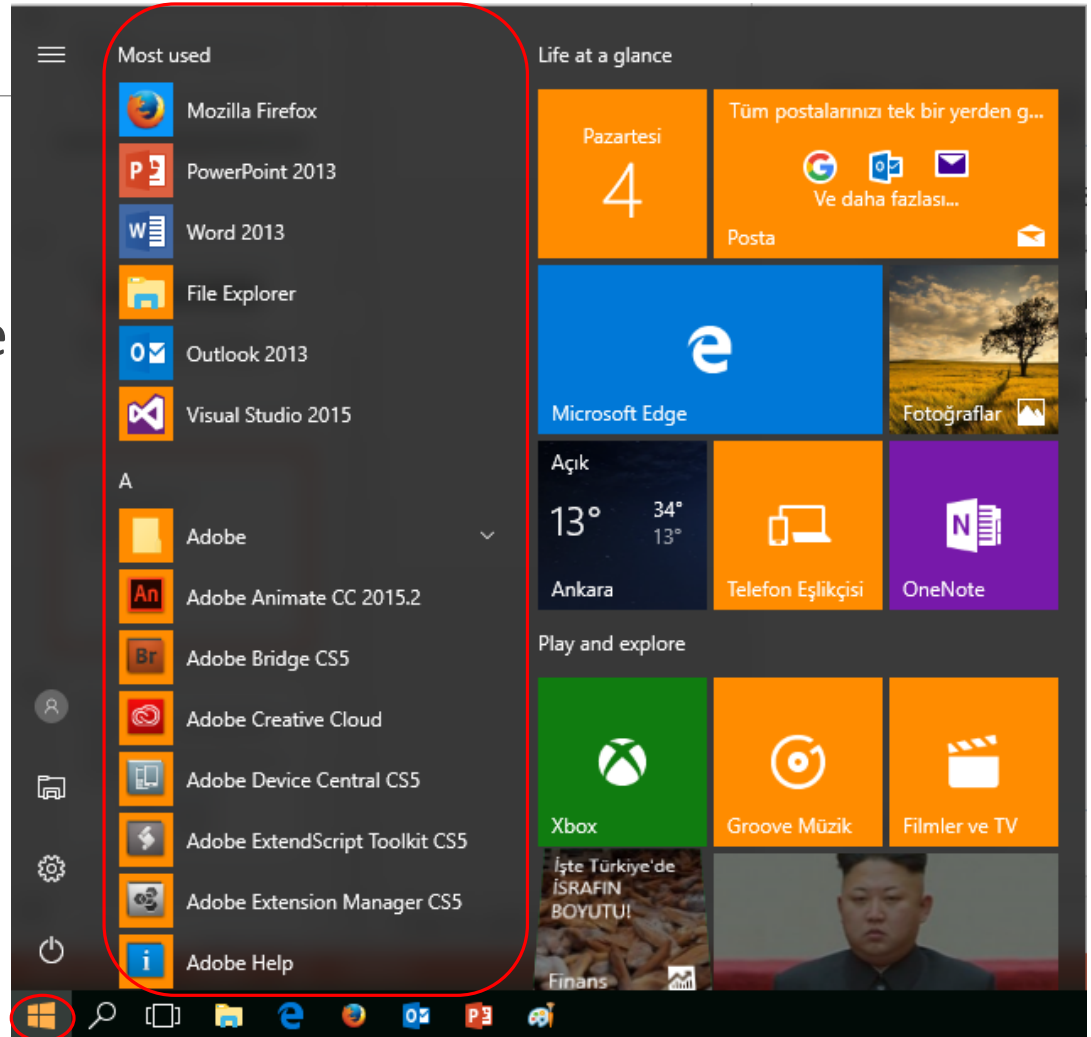
Windows 10

➤It is also possible to fix a desired program to the start menu. Fixed programs will always appear in the menu.

➤Right-click on the program you want to fix from the drop-down list and select **Pin to Start**.
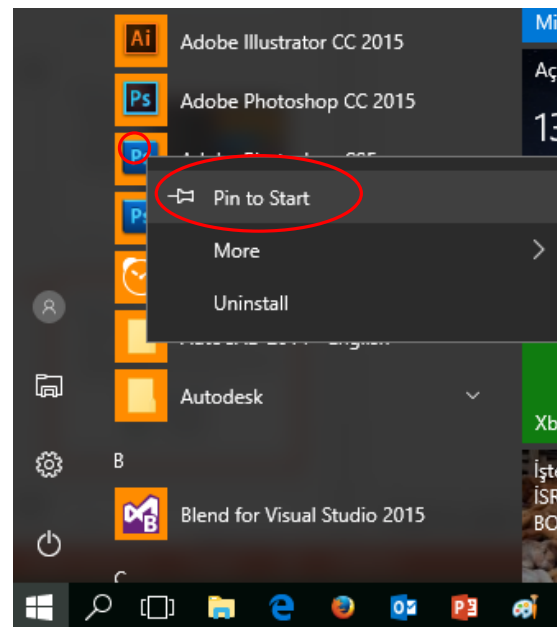
Windows 10

➢Searching for any program or file in Windows 10 can be done very quickly and easily by using the **search box** on the taskbar.

➢The search results are displayed in a pop-up window.
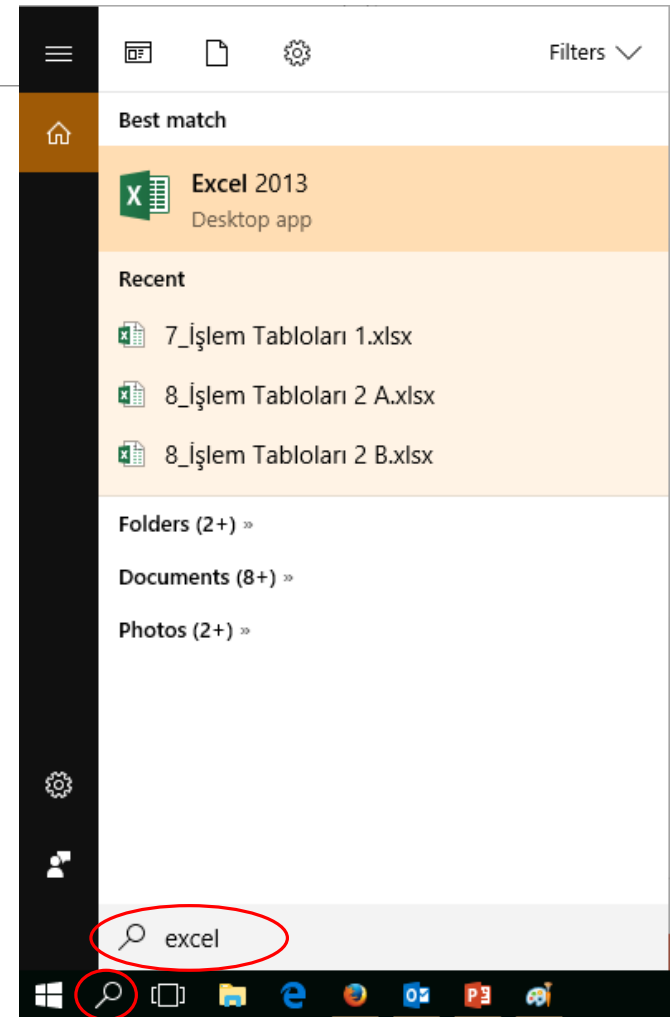
Windows 10

- When you open a program, file, or folder on your computer, a box or frame appears on the screen called the **window**.

- Although each window has a different content, many items in windows are common.
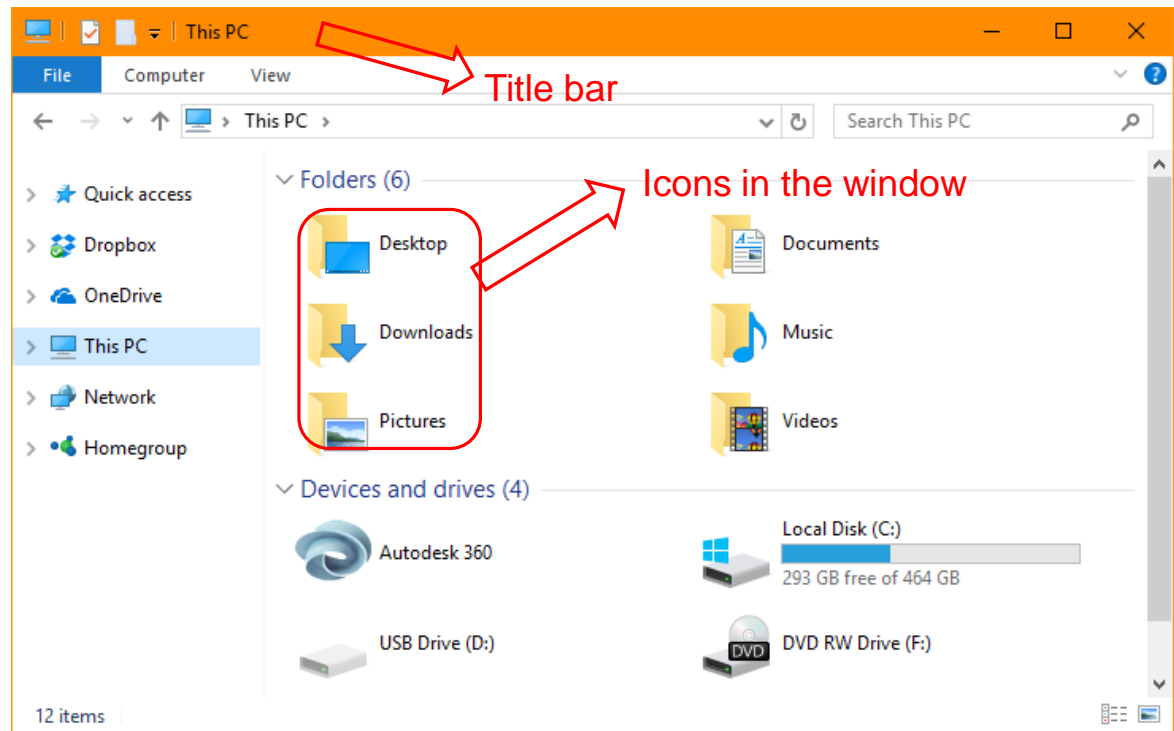
Windows 10
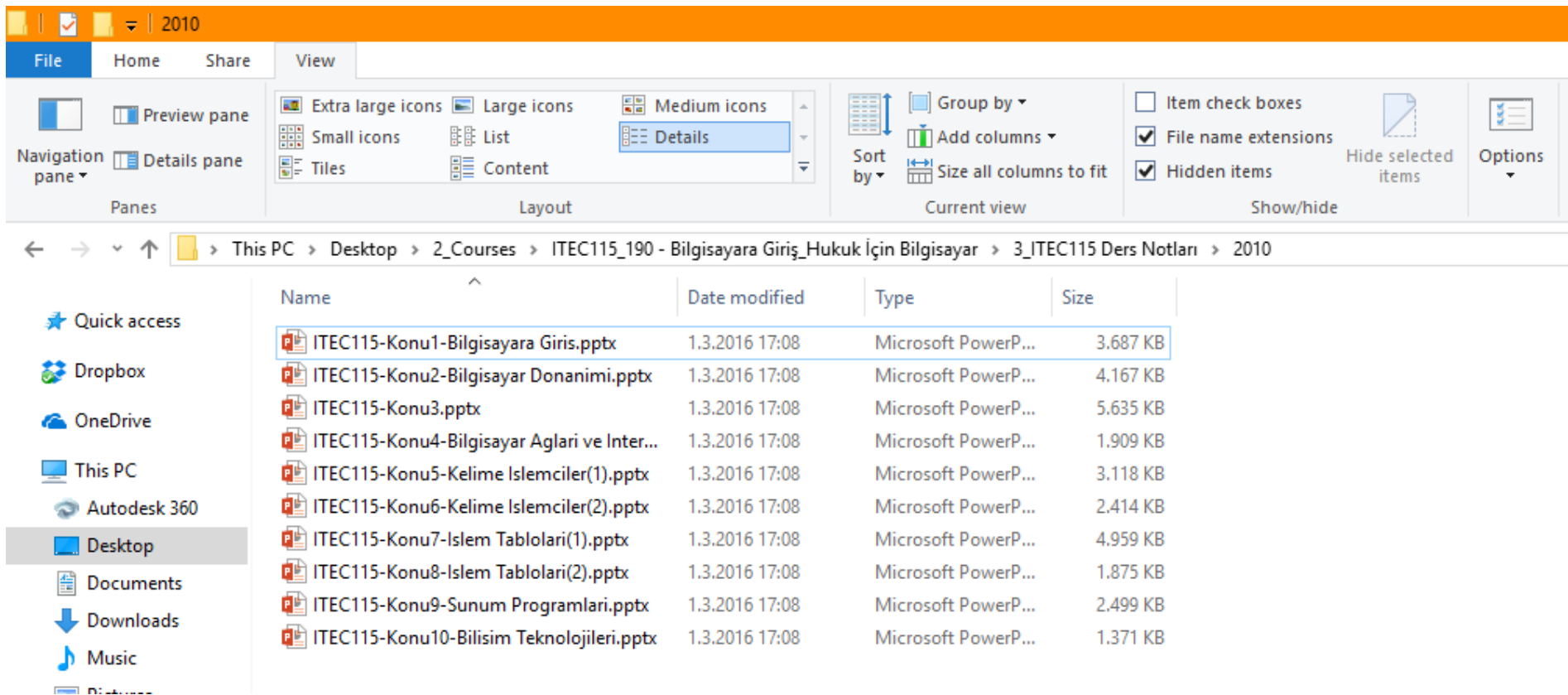
Folders are the items that the files are grouped into. Folders can contain thousands of files and subfolders

Folders are opened in windows and in these windows:

1. back and forth buttons

2. adress bar

3. search box

4. toolbar

5. column headers

6. navigation area

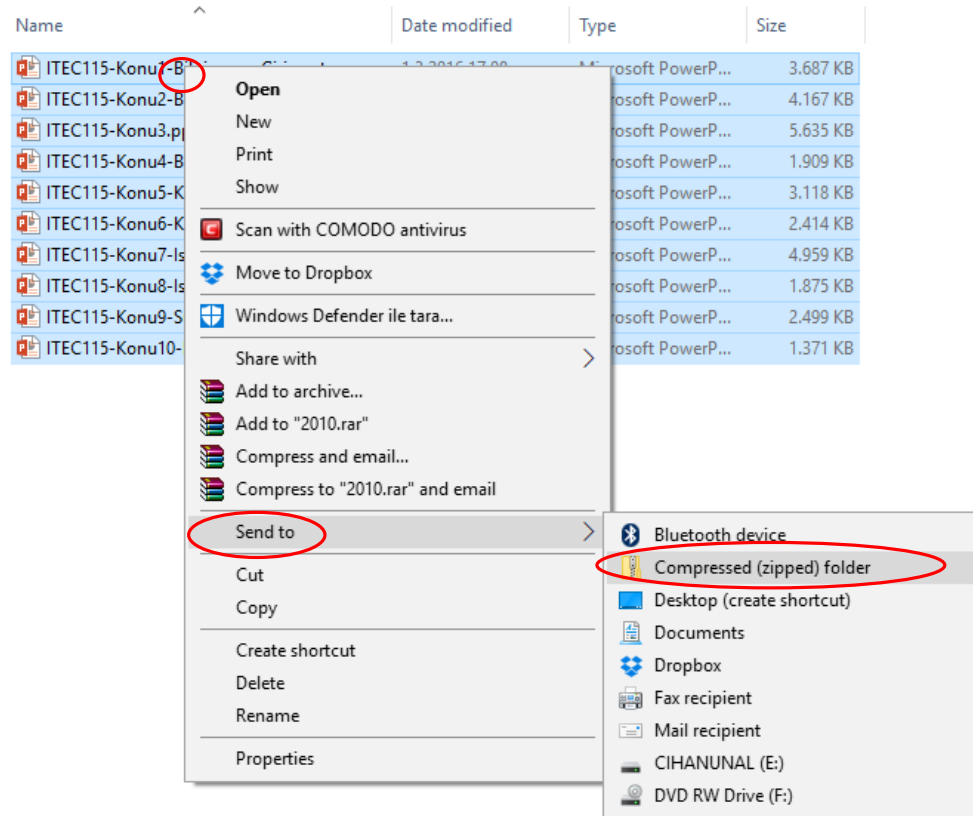7. file list

8. list details

Windows 10

Windows 10

➢In order to copy a file quickly to USB memory, right click on the file and select USB memory from the **Send to** option.
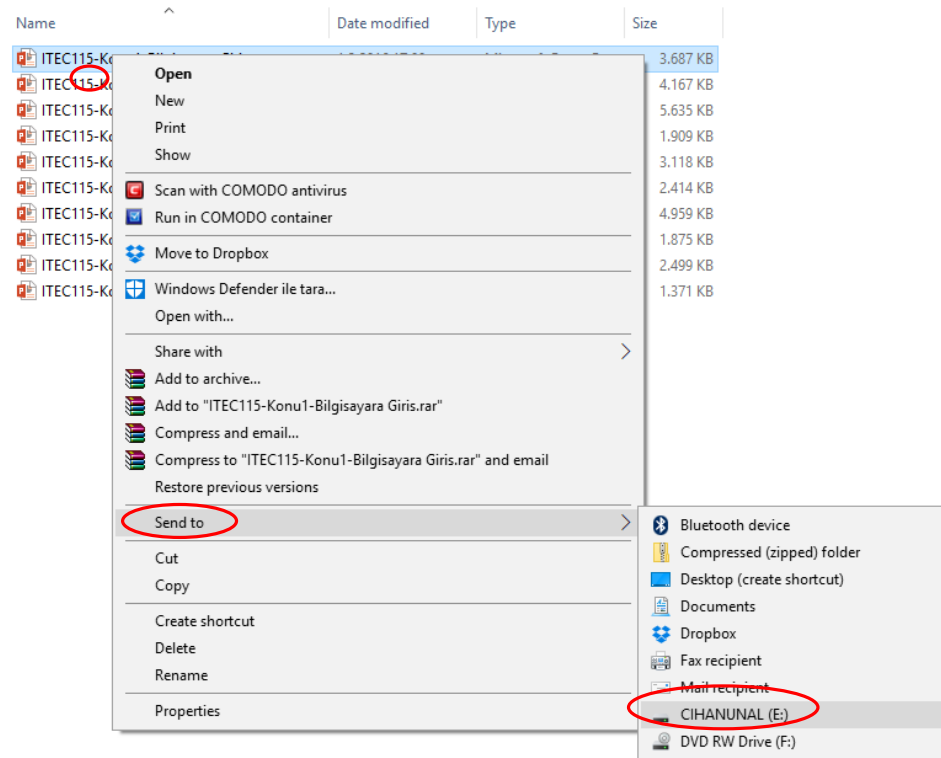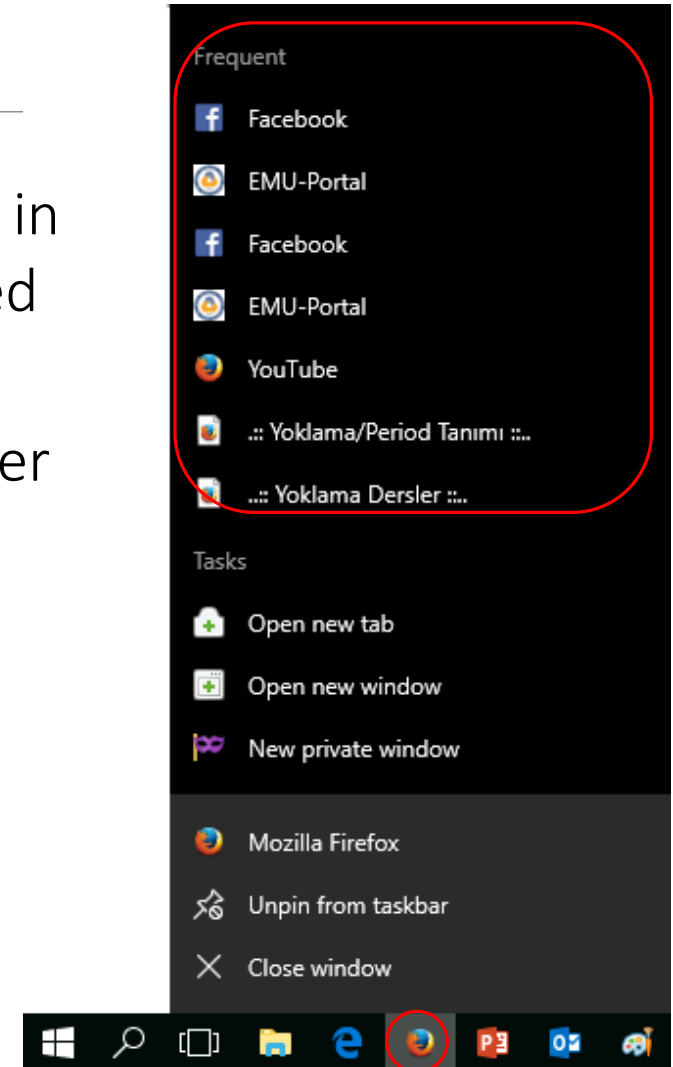
Windows 10

To compress multiple files, you must select the files, right click with the mouse and select the **Compressed (zip**ped) folder from the **Send to** option.
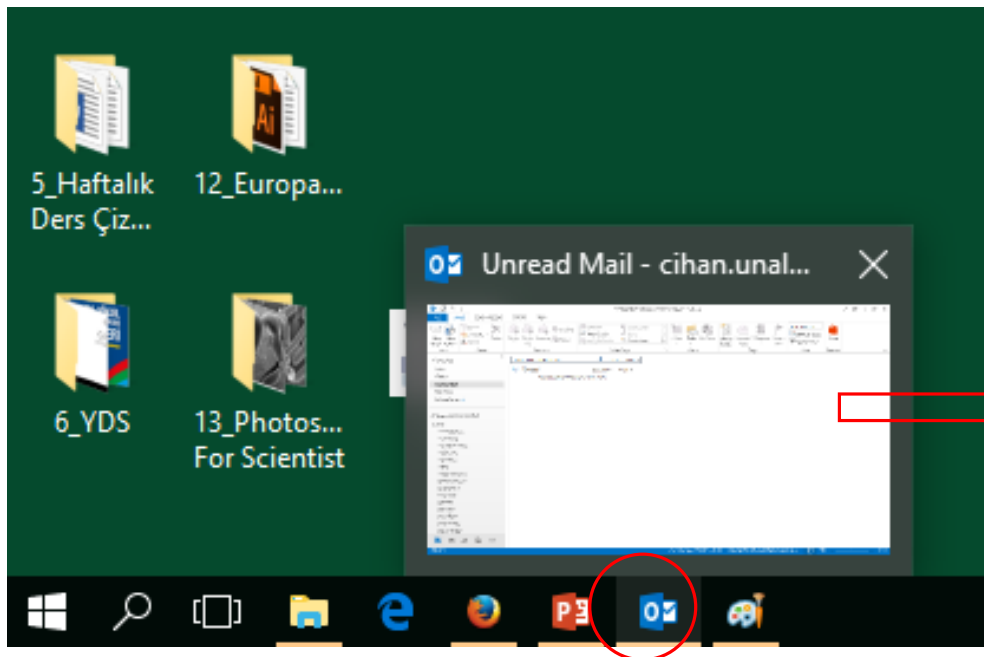
Windows 10

➢ When you right-click on fixed programs in the task bar, a list of the last files opened with that program can be accessed.

➢ On this page it is possible to access faster to the last working files.

Windows 10

➢To switch between windows, you need to bring the mouse over the program icon in the taskbar. Thus, the small size of the open windows will be visible on the screen.

➢Clicking on it with the mouse will bring up the window.

When the icon on the task bar hovered, the preview of the window appears on the screen.

Windows 10

Windows 10 has several options for **resizing** windows..

When you drag a window to the top of the screen, the full screen is automatically placed on the screen, in order to cover the left half of the screen the window should be draged to the left edge, and inorder to cover the right half of the screen the window should be draged to the right edge.

to perform these operations, shortcuts on the keyboard can also be used

◦ To make a window full-screen   + ⬆

◦ To put a window on the left side   + ⬅

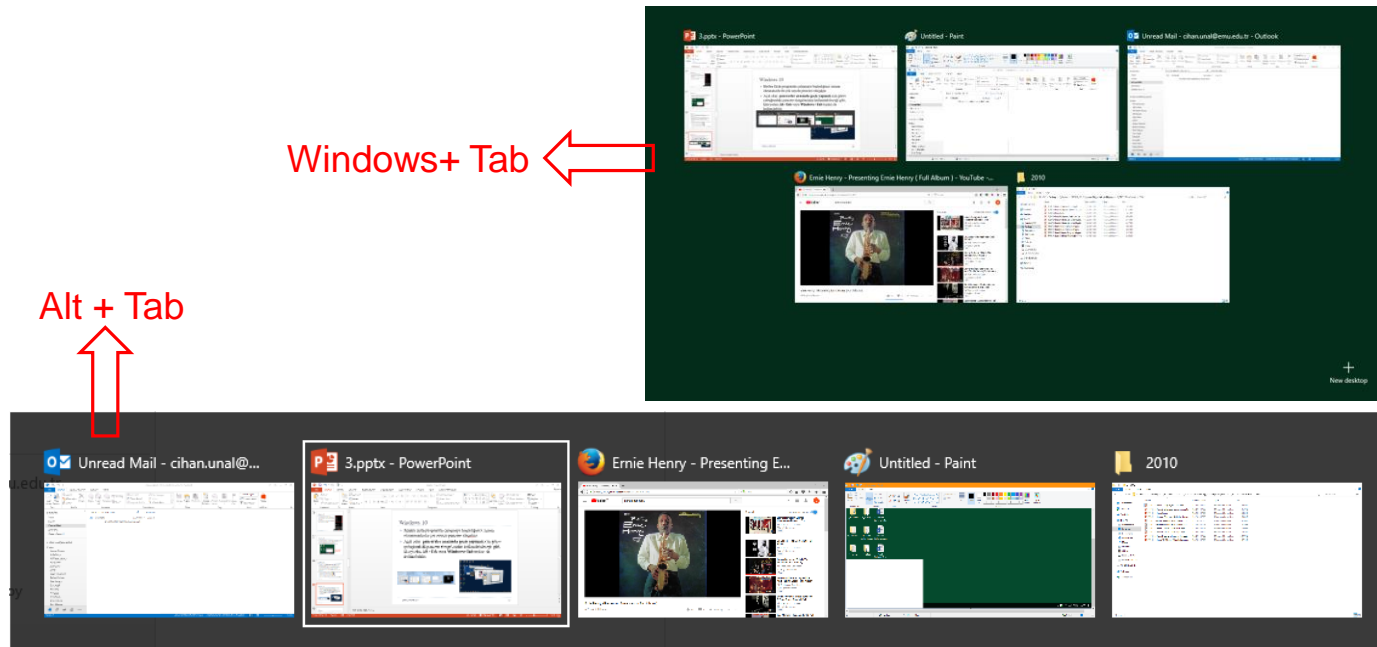◦ To put a window on the right side   + ➡

◦ To make a window an icon   + ⬇

◦ To bring icons out of the active window full-screen +**HOME**
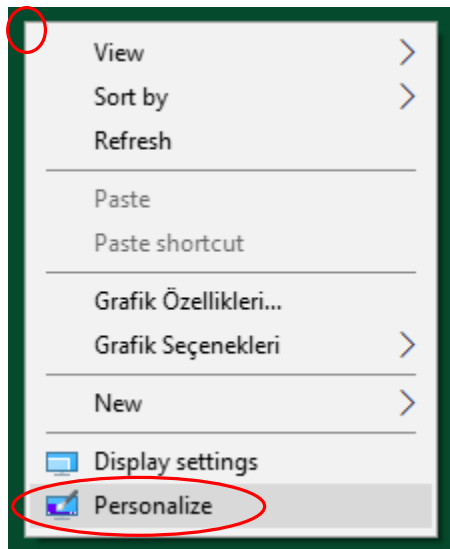
Windows 10

When you start working with more than one program, there will be many windows on your screen as well.

You can use the window icons in the taskbar **to switch between open windows**, or **Alt + Tab** or **Windows + Tab** keys from the keyboard.
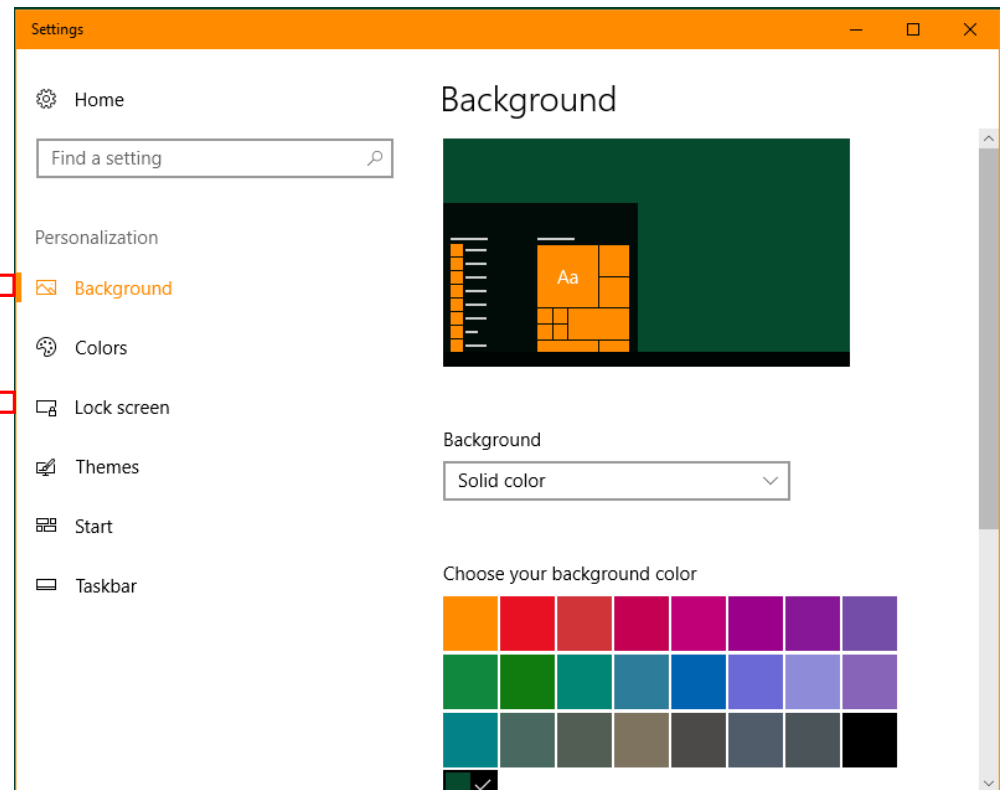

Windows+ Tab

Alt + Tab

Windows 10

➢To change the desktop picture or adjust the screen saver settings in Windows 10, right-click on an empty space on the desktop and select **Personalize**.

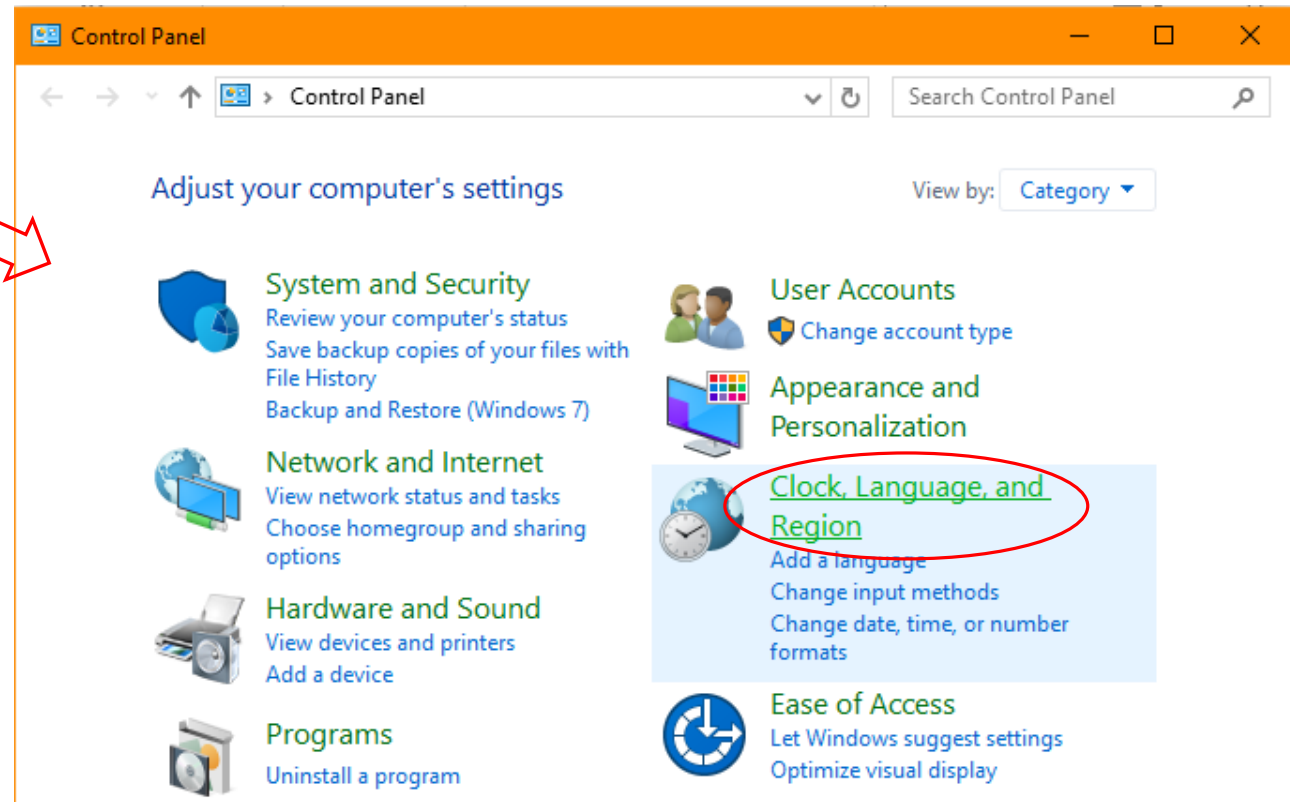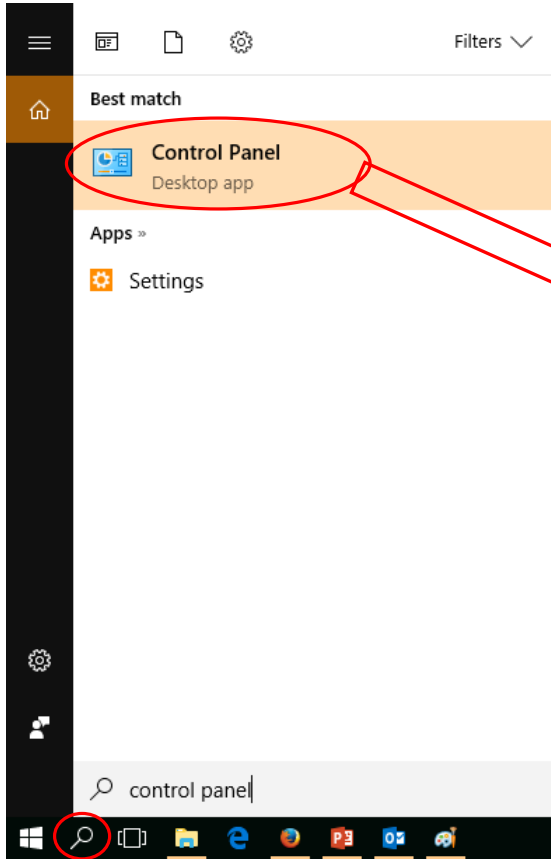# Windows 10

➢Control Panel is the field where the settings of your computer can be controlled.

➢The control panel has a large number of icons used for different purposes.

➢For example, many settings can be made, such as the date / time format, currency format, and so on by using the Clock, Language and Region options,
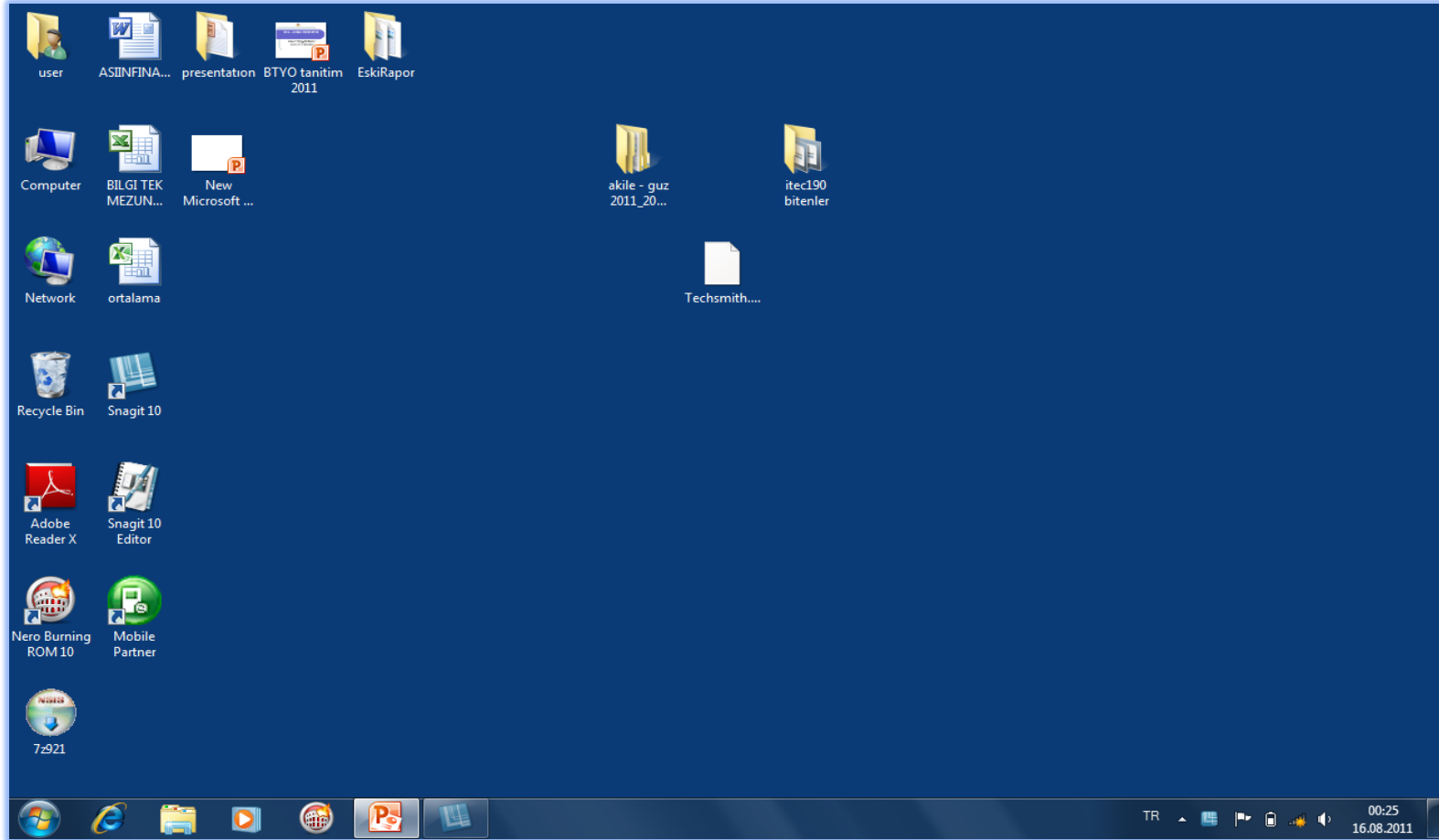
Windows 10

Windows 7

➢ **Microsoft Windows 7** is the operating system that Microsoft released to the market in 2009.

➢ It is an operating system manufactured by Microsoft for use on personal computers, desktops, notebooks, netbooks, Tablet PCs and media center computers.

➢ Windows 7 is easy to use, fast and remarkable operating system.

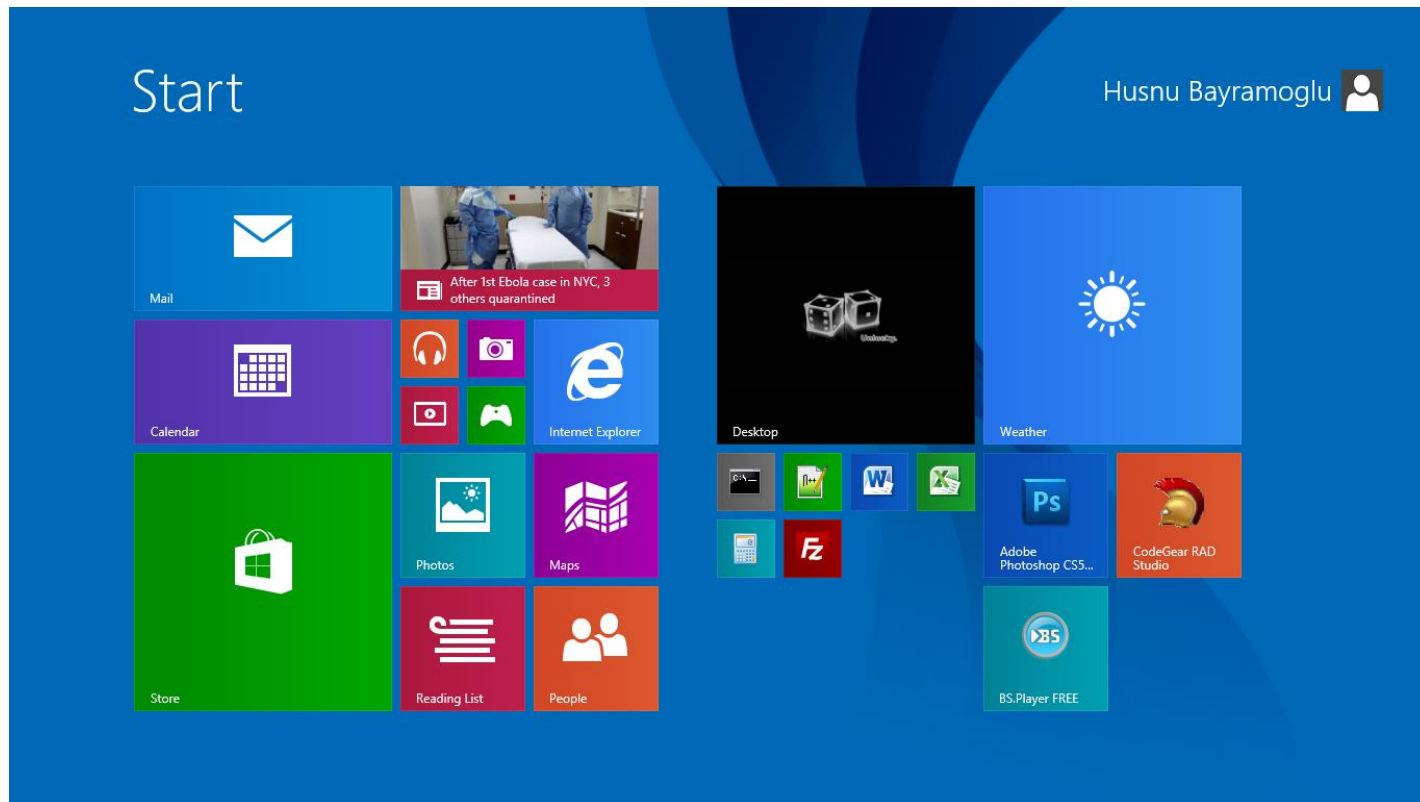➢ Improved task bar helps you to find files and make daily tasks faster.

Windows 7

Windows 8

➤ **Microsoft Windows 8** officially went on the market in October 2012.

➤ This version is what's new on Windows 7 and is especially a version developed for touch screens.

➤ Microsoft Windows 8.1 was introduced in June 2013.

Windows 8

Microsoft Windows 8.1

Linux Operating System

The Linux operating system was started by Linus Torvalds, who is a university student in 1991, inspired by UNIX which is one of the older operating systems.

Linux is an open source, free and free operating system kernel.
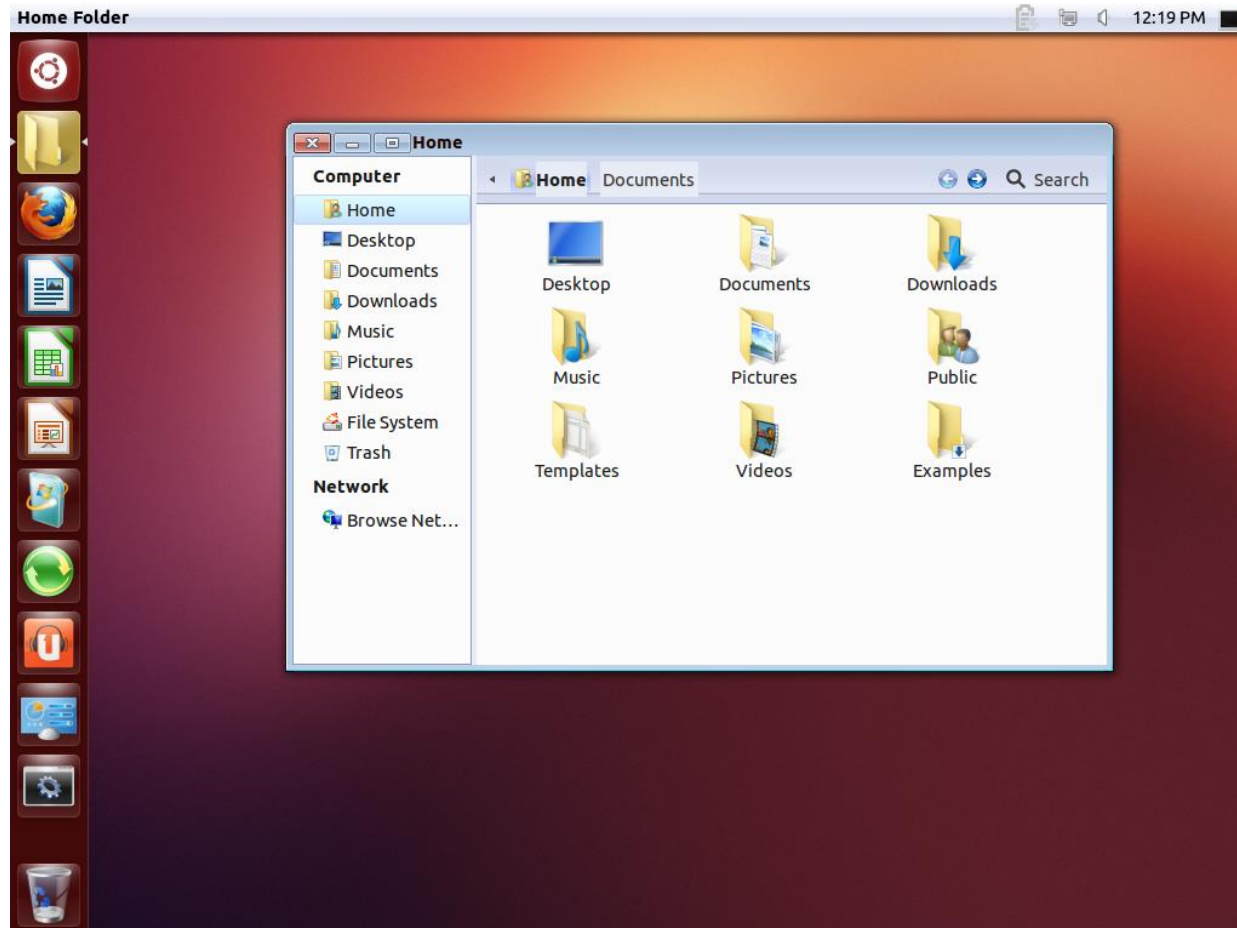
Linux Operating System

With a wide range of hardware support, Linux kernel can work in almost any platform, including netbook, laptop computer, server computer, workstation, smartphone, desktop computer
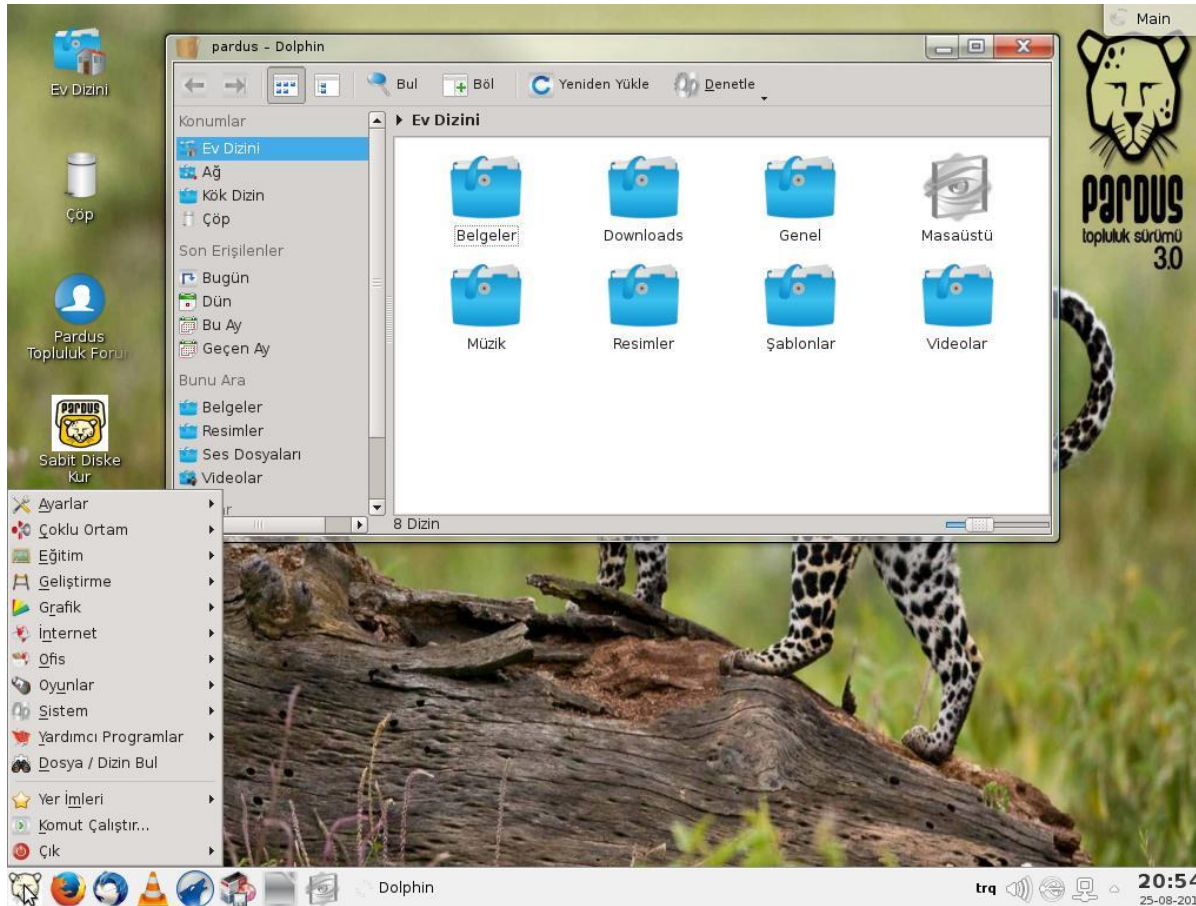
There are many versions of Linux available today. The most common ones are Ubuntu, Pardus, Fedora, Mandriva and Redhat operating systems

Pardus is an operating system developed by TUBITAK in Turkey. The plan was launched in 2003 and the first stable version was released on December 27, 2005

Linux Ubuntu

Linux Pardus

Macintosh Operating System

The Macintosh Operating System (MAC OS) is an operating system first introduced by the Apple company in 1984.

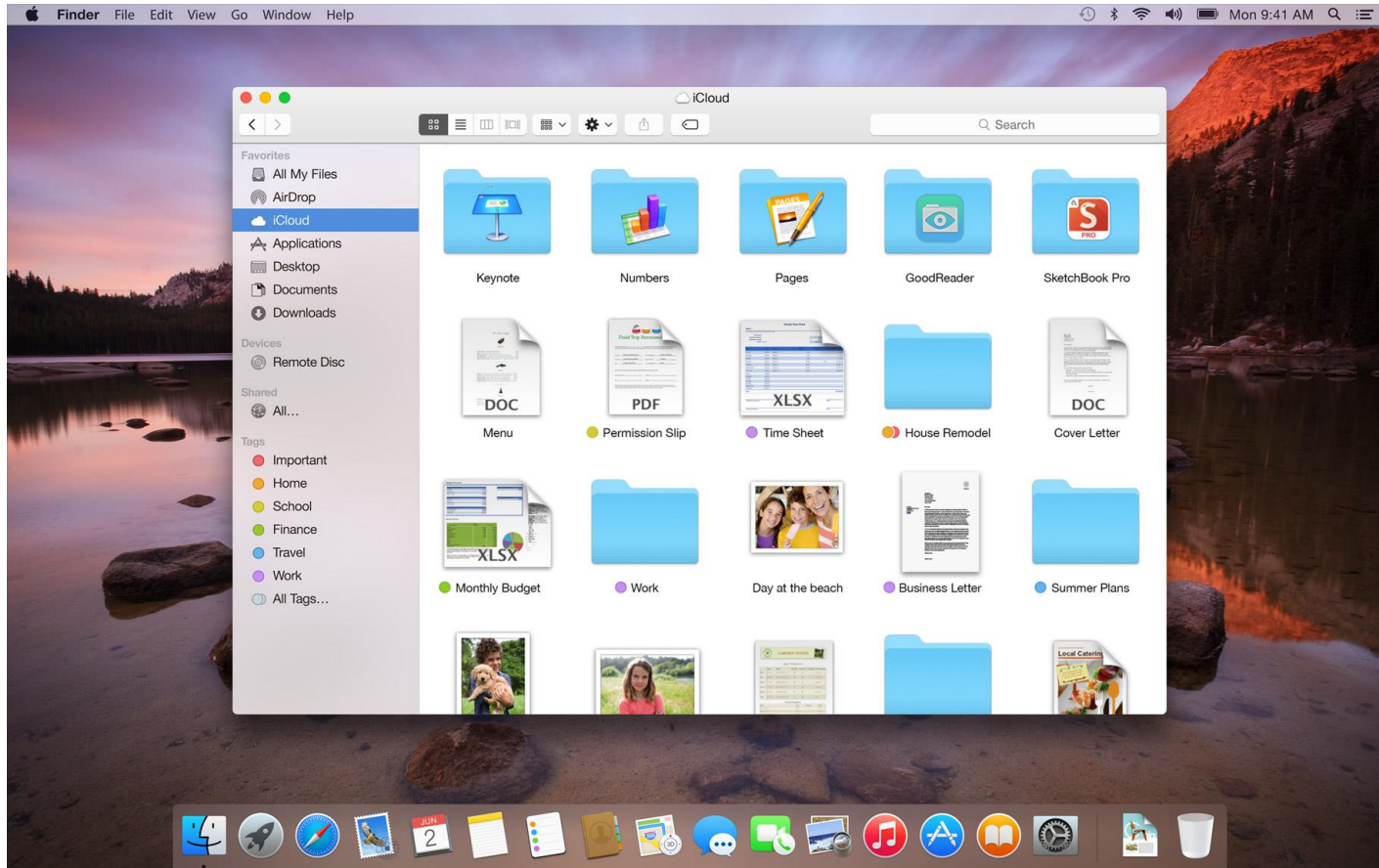MAC OS family includes MAC OS 7, MAC OS 9, and MAC OS X.

In October 2013, Mac OS X version Mavericks (10.9) was released to the market and was offered free of charge to end users unlike previous versions.

Since it is very privileged in terms of graphics, it is usually interested in publishing.

As of 2014, a new version of MAC OS X Yosemite has emerged.

MAC OS X

macOS

Application Software

➤There are many general purpose application software developed for computer systems today

➤The most common of these :
- Word processing programs
- Electronic arithmetic table programs
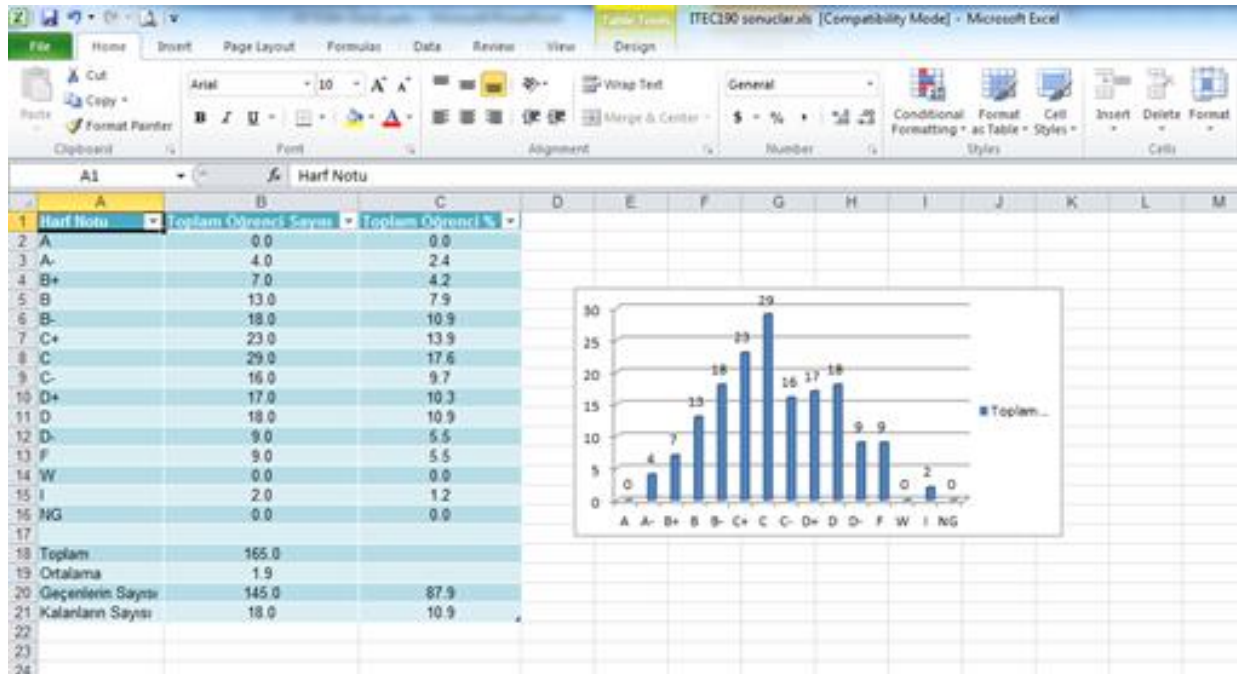- Presentation programs
- Drawing programs
- Games

Word processing programs

➢One of the powerful features of the computers are the programs that enable the computer to be used like a typewriter
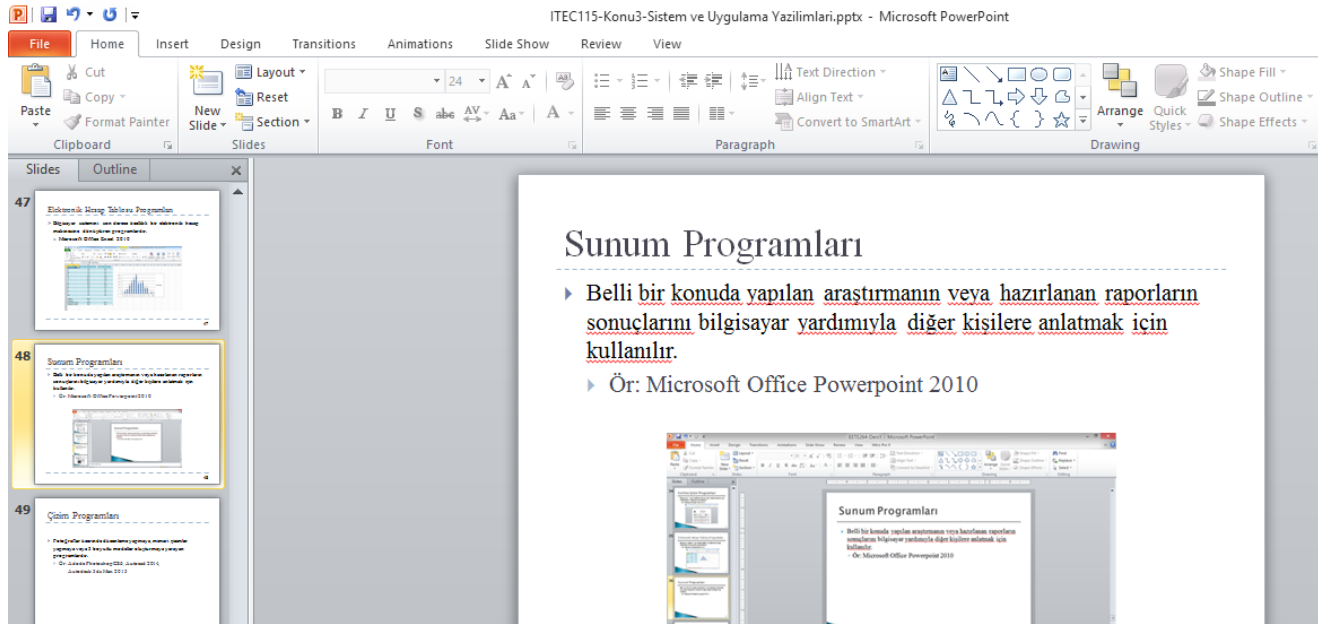
  ○Microsoft Office Word 2010
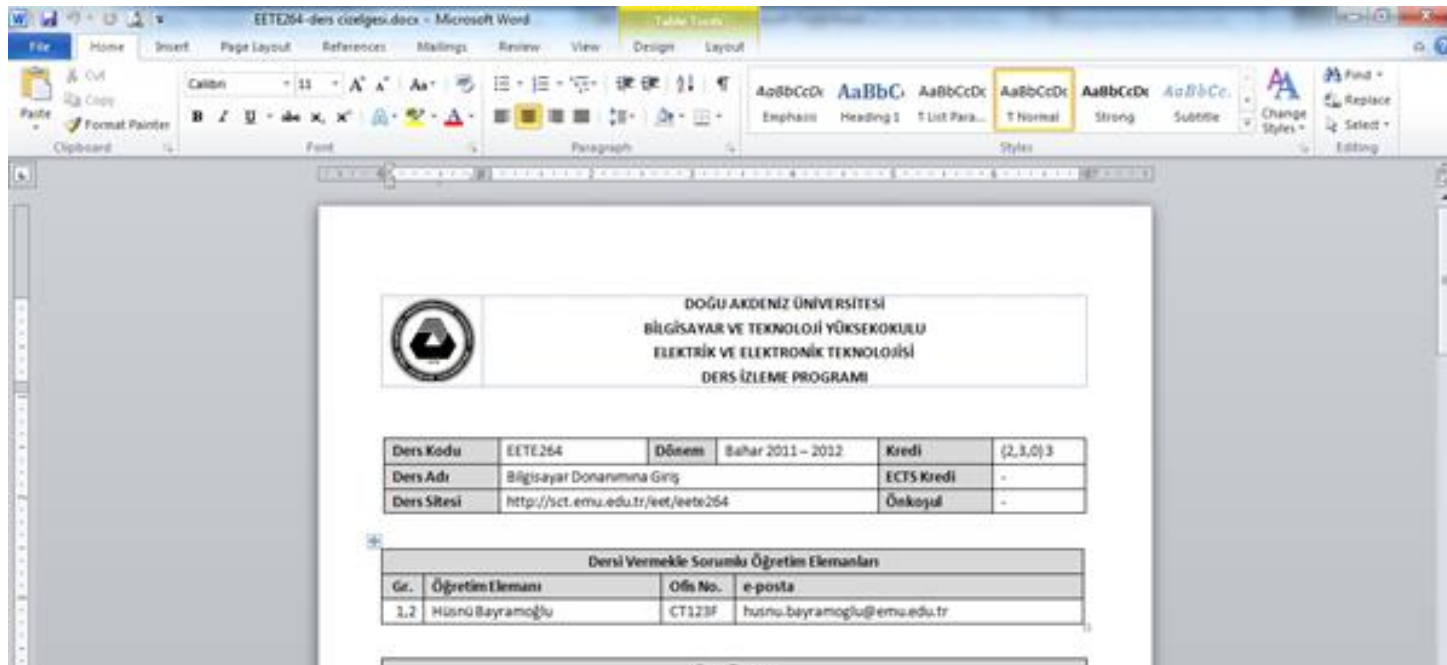
Electronic arithmetic table programs

➤Programs that transform a computer system into a highly featured electronic calculator.

  oMicrosoft Office Excel 2010

Presentation programs

➤ It is used to tell the results of the research or reports prepared on a certain topic to other people via computer.
  ➤ Ex: Microsoft Office Powerpoint 2010

Drawing programs

➢It is a program for editing on photographs, making architectural drawings or creating 3D models.

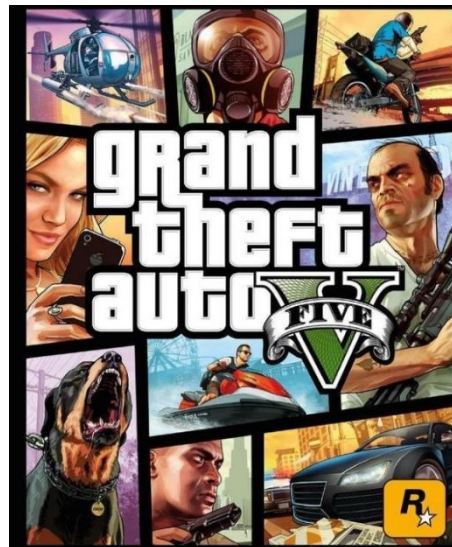   ➢Adode Photoshop, Autocad, Autodesk 3ds Max

Adode Photoshop

Autodesk 3ds Max

Games

➢Computers are also frequently used for entertainment purposes. There are many computer games for this.
  o GTA V, Half Life 2, WRC 4

GTA V