

Object Oriented Programming

Part 0

Background

Contents

- Def. of Computer Hardware & Software
- Types of Computer Applications
- What is .NET Platform ?
- What is .NET Framework ?

Computer Hardware

- It refers to the physical components of a computer.
- It is any part of the computer that we can touch.
- Examples :
Processor (CPU), Memory Devices, Monitor, Printer, Keyboard, Mouse,

Computer Software

- It is a collection of instructions, procedures, documentation that performs different tasks on a computer system.
- It is a programming code executed on a computer processor.
- Examples :
 - MS Word, Excel, Power Point, Google Chrome, Photoshop, MySQL,

Types of Computer Applications

- Windows Applications ('Desktop Apps')
- Console Applications
- Web Applications ('Client/Server Apps')
- Web Services
- Mobile Applications
- Embedded Systems

Windows Application

- It is a form based Windows.
- Windows App is a program that is written to run under the Microsoft Windows operating system, also called a "Windows app." All 32-bit Windows applications run in the 32-bit and 64-bit versions of Windows. All 64-bit applications require 64-bit Windows, which is the standard on new Windows computers and tablets.
- Older 16-bit Windows applications can run in the 32-bit versions of Windows, including Windows 95, 98, XP, Vista, 7, 8 and 10. However, 16-bit applications

do not run natively in the 64-bit versions of Windows (see [Windows XP Mode](#) and [NTVDM](#)).

- Examples :
 - MS word, MS Paint,

Console Application

- It runs inside the command prompt (DOS window).
- It is used commonly for test applications.
- A console application, in the context of C#, is an application that takes input and displays output at a command line console with access to three basic data streams: standard input, standard output and standard error.
- A console application facilitates the reading and writing of characters from a console - either individually or as an entire line. It is the simplest form of a C# program and is typically invoked from the Windows command prompt. A console application usually exists in the form of a stand-alone executable file with minimal or no graphical user interface (GUI).
- A console application is primarily designed for the following reasons :
 - To provide a simple user interface for applications requiring little or no user interaction, such as samples for learning C# language features and command-line utility programs.
 - Automated testing, which can reduce automation implementation resources.
- Console applications developed in C# have one main entry point (static main method) of execution, which takes an optional array of parameters as its only argument for command-line parameter representation.
- The .NET Framework provides library classes to enable rapid console application development with output display capability in different formats. System.Console is one of the main classes used in the development of console applications.

Web Applications/Sites

- It is a collection of web pages hosted on a special computer called 'web server'.
- Web server can be located anywhere and visitors can be located anywhere .
- It will work through Browsers (IE, Chrome, ...).

Web Services

- They are web applications that give services to other applications through the internet.
- Example :
 - Google Search Engine, which allows other applications to delegate the task of searching over the internet.

Embedded Systems

- It is a small computer program 'Embedded' into a chip in the device inside the mobile phone or any digital device.

What is .NET Platform ?

- It is a collection of technologies for building apps for Windows, Linux, macOS,, iOS, Android, and more.
- It is a developer platform made up of tools, programming languages, and libraries for building many different types of applications.

What is .NET Framework ?

- It is part of the .NET platform.
- It is a software development framework for building and running applications on Windows.
- It supports running websites, services, desktop apps, and more on Windows.