

## **Practical-1**

### **1. What is IDE? Give its examples and advantages.**

- IDE stands for Integrated Development Environment.
- An integrated development environment (IDE) is a software application that provides facilities to computer programmers for software development.
- An IDE normally consists of a source code editor, automation tools, and a debugger. Most modern IDEs have intelligent code completion.
- **IDEs examples:** Net Beans, Eclipse and Visual Studio

#### **Advantages:**

- **Less time and effort:** The entire purpose of an IDE is to make developing faster and easier.
- **Debugging:** A debugging is a feature in an IDE that is used to detect errors. It will suggest where the error is and what kind of error it is.
- **Libraries:** Libraries provides for functions that are not include in the core part of the programming language. These need to be downloaded and imported separately in your in your IDE.
- Other advantages like Project management, Enforce project or company standards

### **2. What is GUI?**

- GUI stands for Graphical User Interface.
- It is a human-computer interface that uses windows, icons and menus and which can be manipulated by a mouse.
- GUIs stand in sharp contrast to command line interfaces (CLIs), which use only text and are accessed solely by a keyboard. The most familiar example of a CLI to many people is MSDOS. Another example is Linux when it is used in console mode.

### **3. What types of applications can be developed by using Visual studio?**

- **Console 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.

- **Windows Service:** Background services like driver, Remote access service.
- **Windows Presentation Foundation:** Graphical subsystem by Microsoft for rendering user interfaces in Windows-based applications.
  - **Features:** 3D graphics, Data binding, Media services, Animation, Effects etc.
  - **Example:** XAML – Creates User Interface such as controls, shapes, text, and other content presented on the screen
- **ASP.Net MVC (Model View Controller):**
  - MVC patterns separate input, processing and output of an application
  - **Model** is responsible for maintaining application data and business logic.
  - **View** is a user interface of the application, which displays the data.
  - **Controller:** it is really the heart of the MVC, the intermediary that ties the Model and the View together, it takes user input, manipulates the model & causes the view to update
- **WCF (Windows Communication Foundation):**
  - It is unified framework for creating secure, reliable, transacted, and interoperable distributed applications.

#### 4. Which languages are supported by visual studio?

- There are many languages supported by visual studio.
  - VB.Net
  - Visual C#
  - VC++.Net
  - F#
  - JavaScript
  - Java
  - HTML
  - Ruby
  - Python
  - PowerShell
  - SQL
  - JSON
  - PHP
  - Go
  - XML

- PERL

## 5. List down .NET Framework versions and Visual studio version.

### ○ .NET Framework versions

Version number	Release date
1.0	13-02-2002
1.1	24-04-2003
2.0	07-11-2005
3.0	06-11-2006
3.5	19-11-2007
4.0	12-04-2010
4.5	15-08-2012
4.5.1	17-10-2013
4.5.2	05-05-2014
4.6	20-07-2015
4.6.1	17-11-2015
4.6.2	02-08-2016
4.7	05-04-2017
4.7.1	17-10-2017

### ○ Visual studio versions Visual studio 2003

Visual studio 2005

Visual studio 2007

Visual studio 2010

Visual studio 2012

Visual studio 2013

Visual studio 2015

Visual studio 2017  
Visual studio 2019  
Visual studio 2022

## 6. List out the features of visual studio and new features of Visual studio 2012.

### ○ Features of **Visual studio**

- **Develop:** Navigate, write, and fox your code fast.
- **Debug:** Debug, profile, and diagnose with ease.
- **Test:** Write high-quality code with comprehensive testing tools.
- **Collaborate:** Use version control, be alert, collaborate efficiently

### ○ Features of **Visual studio 2012**

- Windows store Apps
  - Debugging, optimizing, and publishing Windows Store Apps
  - Testing, optimizing, and publishing Windows Phone Apps
- Visual Studio IDE
  - Projects and solutions
  - Windows Managements
- ASP.NET 4.5 and Web Development
  - ASP.NET 4.5 Web forms
  - General Enhancements for web development
  - IIS Express for web development
  - ASP.NET Web API

## 7. Compare Visual studio with other IDEs.

Category	Visual Studio	Other IDE
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Operating System	Windows, Linux	Windows, Mac OS, Linux
Programming Language	C#, C++	JAVA
Difficulty Level	Advance	Master
Scripting Language	All	C#/C++ PHP JAVA JavaScript

**8. Write advantages of C# language over other languages.**

- C# is pure object-oriented, but C++ is a mixture of object-oriented and procedure -oriented.
  - C# is more type safe
- Automatic Garbage Collection
- Easy-to-Development
- Cross Platform
- Better Integration
- Good support for distributed system.