

## ❏ Visual Basic (VB.NET) Interview Questions and Answers (1–50)

### 1. What is VB.NET?

**Answer:** VB.NET is an object-oriented programming language developed by Microsoft. It is a modern version of Visual Basic that runs on the .NET Framework.

### 2. What are the key features of VB.NET?

**Answer:**

- Object-oriented
- Event-driven
- Supports .NET libraries
- Structured exception handling
- Garbage collection

### 3. What is the difference between VB and VB.NET?

**Answer:** VB.NET is a fully object-oriented language built on the .NET framework, unlike classic VB.

### 4. What is a module in VB.NET?

**Answer:** A container for procedures and declarations that are not associated with a class or object.

### 5. What are the data types in VB.NET?

**Answer:** Common types include Integer, String, Boolean, Double, Decimal, Date, Object.

### 6. What is the syntax to declare a variable in VB.NET?

**Answer:** `Dim variableName As DataType`

### 7. What is the difference between Dim, Public, Private, Static, and Const?

**Answer:**

- `Dim`: Declares a variable
- `Public`: Declares a variable accessible anywhere
- `Private`: Limited to the block
- `Static`: Retains value between calls
- `Const`: Constant value

## 8. What is a class in VB.NET?

**Answer:** A blueprint for creating objects, containing fields, properties, methods, and events.

## 9. What is inheritance in VB.NET?

**Answer:** One class can inherit fields and methods from another class using `Inherits`.

## 10. How do you implement encapsulation in VB.NET?

**Answer:** By using properties (`Get` and `Set`) to control access to private fields.

## 11. What is polymorphism?

**Answer:** The ability to present the same method with different implementations (overloading/overriding).

## 12. What is abstraction in VB.NET?

**Answer:** Hiding complex implementation and showing only necessary details.

## 13. How do you handle exceptions in VB.NET?

**Answer:** Using `Try...Catch...Finally` block.

## 14. What is the `Using` block used for?

**Answer:** Automatically disposes objects implementing `IDisposable`.

## 15. What is the difference between `ByVal` and `ByRef`?

**Answer:**

- `ByVal`: Passes a copy
- `ByRef`: Passes the reference

## 16. What is a property in VB.NET?

**Answer:** A member that provides controlled access to a class variable using `Get` and `Set`.

## 17. What are shared members?

**Answer:** Members declared with `Shared` are accessed without creating an object.

## 18. What is the purpose of `Me` keyword?

**Answer:** Refers to the current instance of a class.

## 19. What are constructors and destructors?

**Answer:**

- Constructor: Initializes an object
- Destructor: Cleans up resources before object is reclaimed by GC

## 20. What is method overloading?

**Answer:** Multiple methods with the same name but different parameter lists.

## 21. What is method overriding?

**Answer:** Derived class redefines a base class method using `Overrides`.

## 22. What is the `MustInherit` keyword?

**Answer:** Declares a class as abstract; cannot be instantiated.

## 23. What is the `NotInheritable` keyword?

**Answer:** Prevents a class from being inherited.

## 24. What are interfaces in VB.NET?

**Answer:** A contract that classes can implement, containing method/property declarations.

## 25. What is the difference between interface and abstract class?

**Answer:**

- Interface: No implementation
- Abstract class: Can have implementation

## 26. What are delegates in VB.NET?

**Answer:** Object that refers to a method — used for callbacks and event handling.

## 27. What is an event in VB.NET?

**Answer:** A way for objects to communicate when something happens.

## 28. What are the collection types in VB.NET?

**Answer:** `Array`, `ArrayList`, `List`, `Dictionary`, `Queue`, `Stack`

## 29. What is an array?

**Answer:** A collection of elements of the same type.

### **30. What is the difference between Array and Collection?**

**Answer:**

- Array: Fixed size, indexed
- Collection: Dynamic size, flexible

### **31. What is a structure in VB.NET?**

**Answer:** A value type that can contain multiple related variables.

### **32. What is `Option Strict` and `Option Explicit`?**

**Answer:**

- `Option Strict`: Enforces type safety
- `Option Explicit`: Requires variable declaration

### **33. What is the difference between early binding and late binding?**

**Answer:**

- Early binding: Type is known at compile time
- Late binding: Type resolved at runtime

### **34. What is a namespace?**

**Answer:** A way to organize code and avoid naming conflicts.

### **35. What is the `Handles` keyword used for?**

**Answer:** Associates an event with its event handler.

### **36. What is the `WithEvents` keyword?**

**Answer:** Declares a variable that can handle events.

### **37. What is the difference between Form and Module?**

**Answer:**

- Form: UI-based class
- Module: Code container without instantiation

### **38. What are the access modifiers in VB.NET?**

**Answer:** `Public`, `Private`, `Friend`, `Protected`, `Protected Friend`, `Private Protected`

### **39. What is late binding in VB.NET?**

**Answer:** Accessing properties/methods of an object dynamically using `CreateObject`.

### **40. How do you connect VB.NET to a database?**

**Answer:** Using ADO.NET classes like `SqlConnection`, `SqlCommand`, etc.

### **41. What is ADO.NET?**

**Answer:** A set of classes that expose data access services.

### **42. What is a DataSet?**

**Answer:** In-memory representation of data.

### **43. What is DataAdapter?**

**Answer:** Acts as a bridge between DataSet and data source.

### **44. What is SqlCommand?**

**Answer:** Used to execute SQL queries and commands.

### **45. What is `ExecuteScalar()` method?**

**Answer:** Executes a query and returns a single value.

### **46. What is `ExecuteNonQuery()` ?**

**Answer:** Executes insert/update/delete and returns rows affected.

### **47. What is `ExecuteReader()` ?**

**Answer:** Executes a query and returns a DataReader.

### **48. What is the difference between DataReader and DataSet?**

**Answer:**

- DataReader: Forward-only, fast, connected
- DataSet: In-memory, disconnected

### **49. What is multithreading in VB.NET?**

**Answer:** Running multiple threads to perform concurrent tasks.

### **50. What is garbage collection in VB.NET?**

**Answer:** Automatic memory management that reclaims unused objects.