

1. Which of the following statements about C# is correct?

- ☐ C# is a statically typed language.
- ☐ C# supports multiple inheritance.
- ☐ C# code is compiled into machine code.
- ☐ C# is case-insensitive.

****Answer:**** ☒ C# is a statically typed language.`

2. What is the correct way to create an instance of a class in C#?

- ☐ `MyClass obj = new MyClass();`
- ☐ `MyClass obj;`
- ☐ `MyClass obj = MyClass();`
- ☐ `MyClass obj = class MyClass;`

****Answer:**** ☒ MyClass obj = new MyClass();`

3. Which of the following methods can be overridden in a derived class?

- ☐ A static method.
- ☐ A private method.
- ☐ A virtual method.
- ☐ An abstract method.

****Answer:**** ☒ A virtual method., ☒ An abstract method.`

4. Which of the following is correct about exception handling in C#?

- [] `finally` block is always executed.
- [] Multiple `catch` blocks can be used for different exceptions.
- [] A `try` block can exist without a `catch` block.
- [] `throw` keyword is used to catch exceptions.

****Answer:**** `[√] finally block is always executed.` , `[√] Multiple catch blocks can be used for different exceptions.` , `[√] A try block can exist without a catch block.`

5. Which of the following data types is not a value type in C#?

- [] `int`
- [] `string`
- [] `float`
- [] `char`

****Answer:**** `[√] string`

6. Which of the following operators can be overloaded in C#?

- [] `+`
- [] `-'`
- [] `=`
- [] `&&`

****Answer:**** `[√] +` , `[√] -`

7. What is the output of the following code snippet?

```
```csharp
int a = 5;
Console.WriteLine(++a);
```
```

- [] 4
- [] 5
- [] 6
- [] Compiler Error

****Answer:**** ☒ 6`

8. Which of the following keywords is used to inherit a class in C#?

- [] `inherit`
- [] `extend`
- [] `base`
- [] `:`

****Answer:**** ☒ `:``

9. What does the `is` keyword do in C#?

- [] Checks if an object is a specific type.
- [] Compares two objects for equality.
- [] Checks if an object implements an interface.
- [] Declares an instance of a class.

****Answer:**** ☒ Checks if an object is a specific type.`

10. Which of the following statements is true about the `readonly` keyword in C#?

- ☐ It can only be assigned in the constructor.
- ☐ It can be modified anytime during the program execution.
- ☐ It is similar to the `const` keyword.
- ☐ It is evaluated at runtime.

****Answer:**** ☒ It can only be assigned in the constructor.`, ☒ It is evaluated at runtime.`

11. In C#, which of the following is a correct statement regarding garbage collection?

- ☐ It is manually triggered by the programmer.
- ☐ It automatically frees memory occupied by unreferenced objects.
- ☐ It can be forced using the `GC.Collect()` method.
- ☐ It guarantees immediate destruction of objects.

****Answer:**** ☒ It automatically frees memory occupied by unreferenced objects.`, ☒ It can be forced using the GC.Collect() method.`

12. What is the result of the following expression in C#?

```
```csharp
```

```
5 / 2
```

```
```
```

- ☐ 2
- ☐ 2.5
- ☐ 2.0
- ☐ Compiler Error

****Answer:**** ☒ 2`

13. Which of the following features does C# support?

- ☐ Delegates
- ☐ Lambda expressions
- ☐ Multiple inheritance
- ☐ Interfaces

****Answer:**** ☒ Delegates`, ☒ Lambda expressions`, ☒ Interfaces`

14. What is the correct way to declare an array in C#?

- ☐ `int[] arr = new int[5];``
- ☐ `int arr[] = new int[5];``
- ☐ `int arr[5] = new int[];``
- ☐ `int[5] arr = new int[];``

****Answer:**** ☒ `int[] arr = new int[5];``

15. Which of the following statements is true about `ref` and `out` parameters in C#?

- ☐ `ref` requires the variable to be initialized before passing.

- [] `out` requires the variable to be initialized before passing.
- [] `ref` does not require the variable to be initialized before passing.
- [] `out` does not require the variable to be initialized before passing.

****Answer:**** `[✓]` ref requires the variable to be initialized before passing., `[✓]` out does not require the variable to be initialized before passing.`

16. Which of the following statements is true regarding nullable types in C#?

- [] Value types can be made nullable using `?`.
- [] Nullable types are only applicable to reference types.
- [] Nullable types can represent a value or no value.
- [] Nullable types cannot be used in expressions.

****Answer:**** `[✓]` Value types can be made nullable using `?`, `[✓]` Nullable types can represent a value or no value.`

17. Which of the following is true about LINQ in C#?

- [] It stands for Language Integrated Query.
- [] It is used for querying databases only.
- [] It can query arrays and collections.
- [] It is a feature only in .NET Core.

****Answer:**** `[✓]` It stands for Language Integrated Query., `[✓]` It can query arrays and collections.`

18. What is the output of the following code?

```
```csharp
int x = 10;
int y = x++;
Console.WriteLine(y);
```
```

- [] 9
- [] 10
- [] 11
- [] Compiler Error

****Answer:**** `[√] 10`

19. Which of the following statements about the `sealed` keyword is true?

- [] It prevents a class from being inherited.
- [] It allows a method to be overridden.
- [] It is used to create immutable classes.
- [] It cannot be used with methods.

****Answer:**** `[√] It prevents a class from being inherited.`

20. Which of the following collections in C# guarantees unique elements?

- [] `List<T>`
- [] `Dictionary<TKey, TValue>`
- [] `HashSet<T>`
- [] `Queue<T>`

****Answer:**** `[√] HashSet<T>`

21. Which of the following methods belongs to the `System.Object` class?

- [] `ToString()`
- [] `Equals()`
- [] `Clone()`
- [] `GetHashCode()`

****Answer:**** `[√] ToString()`, `[√] Equals()`, `[√] GetHashCode()`

22. What does the `as` keyword do in C#?

- [] Casts an object to a specified type.
- [] Performs a safe type conversion.
- [] Throws an exception if the conversion fails.
- [] Returns `null` if the conversion fails.

****Answer:**** `[√] Casts an object to a specified type.`, `[√] Returns null if the conversion fails.`

23. Which of the following is a valid syntax for a lambda expression in C#?

- [] `x => x + 1`
- [] `(x, y) => x * y`
- [] `() => Console.WriteLine("Hello");`
- [] `x, y => x + y`

****Answer:**** ☒ `x => x + 1`, ☒ `(x, y) => x * y`, ☒ `() => Console.WriteLine("Hello");`

24. Which of the following statements about interfaces in C# is true?

- ☐ An interface can contain fields.
- ☐ An interface can contain method implementations.
- ☐ A class can implement multiple interfaces.
- ☐ Interfaces support multiple inheritance.

****Answer:**** ☒ A class can implement multiple interfaces., ☒ Interfaces support multiple inheritance.

25. What is the output of the following code?

```
```csharp
int[] arr = { 1, 2, 3, 4, 5 };
Console.WriteLine(arr[5]);
```
```

- ☐ 5
- ☐ 0
- ☐ `IndexOutOfRangeException`
- ☐ Compiler Error

****Answer:**** ☒ `IndexOutOfRangeException`

26. What does the `params` keyword in C# allow?

- ☐ Passing a

variable number of arguments to a method.

- ☐ Passing parameters by reference.

- ☐ Passing an array of arguments.

- ☐ Passing parameters by value.

****Answer:**** ☒ Passing a variable number of arguments to a method., ☒ Passing an array of arguments.`

27. Which of the following types are reference types in C#?

- ☐ `object`

- ☐ `string`

- ☐ `Array`

- ☐ `int`

****Answer:**** ☒ object, ☒ string, ☒ Array`

28. Which of the following statements is correct about constructors in C#?

- ☐ Constructors can be overloaded.

- ☐ Constructors cannot be inherited.

- ☐ A constructor can return a value.

- ☐ Constructors can be private.

****Answer:**** ☒ Constructors can be overloaded., ☒ Constructors cannot be inherited., ☒ Constructors can be private.`

29. What is the output of the following code?

```
```csharp
string s = "Hello";
s += " World";
Console.WriteLine(s.Length);
```
```

- [] 5

- [] 6

- [] 11

- [] 12

****Answer:**** `[✓] 11`

30. Which of the following statements is true about `enum` in C#?

- [] Enums are value types.

- [] Enums can have methods.

- [] Enums can have fields.

- [] Enums can have multiple values.

****Answer:**** `[✓] Enums are value types.` , `[✓] Enums can have methods.`

31. Which of the following is correct regarding indexers in C#?

- ☐ They allow objects to be indexed like arrays.
- ☐ They can have multiple parameters.
- ☐ They must be declared with the `this` keyword.
- ☐ They can be static.

****Answer:**** `[✓] They allow objects to be indexed like arrays.` , `[✓] They must be declared with the this keyword.`

32. Which of the following statements is true about partial classes in C#?

- ☐ They allow splitting the definition of a class across multiple files.
- ☐ All parts must be in the same namespace.
- ☐ They can have different access modifiers.
- ☐ Partial methods must have a return type.

****Answer:**** `[✓] They allow splitting the definition of a class across multiple files.` , `[✓] All parts must be in the same namespace.`

33. What is the default access modifier for members of a class in C#?

- ☐ `public`
- ☐ `private`
- ☐ `protected`
- ☐ `internal`

****Answer:**** `[✓] private`

34. Which of the following statements is true about events in C#?

- ☐ They can be declared using the `event` keyword.
- ☐ Events can be static.
- ☐ Events can return a value.
- ☐ Events are used with delegates.

Answer: ☒ They can be declared using the event keyword., ☒ Events can be static., ☒ Events are used with delegates.

35. What is the purpose of the `yield` keyword in C#?

- ☐ To return an iterator from a method.
- ☐ To create a generator function.
- ☐ To return multiple values from a method.
- ☐ To pause execution and return to the calling method.

Answer: ☒ To return an iterator from a method., ☒ To pause execution and return to the calling method.

36. Which of the following is correct regarding properties in C#?

- ☐ Properties can have `get` and `set` accessors.
- ☐ Properties can be read-only.
- ☐ Properties can have different access levels for `get` and `set`.
- ☐ Properties cannot be static.

Answer: ☒ Properties can have get and set accessors., ☒ Properties can be read-only., ☒ Properties can have different access levels for get and set.

37. Which of the following statements about anonymous methods in C# is correct?

- ☐ They can be used to create inline delegates.
- ☐ They cannot access variables outside their scope.
- ☐ They do not have a return type.
- ☐ They can be used in place of lambda expressions.

****Answer:**** ☒ They can be used to create inline delegates., ☒ They can be used in place of lambda expressions.`

38. What is the purpose of the `checked` keyword in C#?

- ☐ To check the syntax of a block of code.
- ☐ To enable overflow checking for arithmetic operations.
- ☐ To verify the integrity of data.
- ☐ To prevent exceptions from being thrown.

****Answer:**** ☒ To enable overflow checking for arithmetic operations.`

39. Which of the following statements is true about the `StringBuilder` class in C#?

- ☐ It is immutable.
- ☐ It is used for efficient string manipulations.
- ☐ It belongs to the `System.Text` namespace.
- ☐ It cannot be resized after creation.

****Answer:**** ☒ It is used for efficient string manipulations., ☒ It belongs to the System.Text namespace.`

40. What is the result of the following expression in C#?

```
```csharp
true && false || true
```
```

- ☐ `true`
- ☐ `false`
- ☐ `Compiler Error`
- ☐ `null`

****Answer:**** ☒ `true`

41. Which of the following statements about the `abstract` keyword in C# is correct?

- ☐ Abstract classes cannot be instantiated.
- ☐ Abstract methods must be implemented in derived classes.
- ☐ Abstract classes can have constructors.
- ☐ Abstract methods can have a body.

****Answer:**** ☒ Abstract classes cannot be instantiated., ☒ Abstract methods must be implemented in derived classes., ☒ Abstract classes can have constructors.

42. Which of the following statements is correct about the `params` keyword in C#?

- ☐ It allows passing a variable number of arguments to a method.
- ☐ It must be the last parameter in a method.

- [] It can only be used with arrays.
- [] It can be used with reference types only.

****Answer:**** `[√] It allows passing a variable number of arguments to a method.` , `[√] It must be the last parameter in a method.`

43. What is the output of the following code?

```
```csharp
int a = 10, b = 20;
Console.WriteLine(a > b ? a : b);
```
```

- [] 10
- [] 20
- [] `true`
- [] `false`

****Answer:**** `[√] 20`

44. Which of the following statements is true about namespaces in C#?

- [] They are used to organize classes and interfaces.
- [] They prevent naming conflicts.
- [] A class can belong to multiple namespaces.
- [] Namespaces can be nested.

****Answer:**** ☒ They are used to organize classes and interfaces., ☒ They prevent naming conflicts., ☒ Namespaces can be nested.`

45. Which of the following statements is true about the `lock` keyword in C#?

- ☐ It is used to ensure that a block of code runs atomically.
- ☐ It prevents multiple threads from accessing a resource simultaneously.
- ☐ It is used for exception handling.
- ☐ It can be used with any value type.

****Answer:**** ☒ It is used to ensure that a block of code runs atomically., ☒ It prevents multiple threads from accessing a resource simultaneously.`

46. What is the correct way to define a delegate in C#?

- ☐ `delegate int MyDelegate();``
- ☐ `int delegate MyDelegate();``
- ☐ `delegate MyDelegate int();``
- ☐ `MyDelegate delegate int();``

****Answer:**** ☒ `delegate int MyDelegate();``

47. Which of the following statements about the `foreach` loop in C# is correct?

- ☐ It is used to iterate over collections.
- ☐ It modifies the collection during iteration.
- ☐ It cannot be used with arrays.
- ☐ It does not require an explicit index.

****Answer:**** `[✓]` It is used to iterate over collections.` , `[✓]` It does not require an explicit index.`

48. Which of the following is true about extension methods in C#?

- ☐ They allow adding new methods to existing types.
- ☐ They must be static.
- ☐ They can override existing methods.
- ☐ They require a `this` modifier in the first parameter.

****Answer:**** `[✓]` They allow adding new methods to existing types.` , `[✓]` They must be static.` , `[✓]` They require a this modifier in the first parameter.`

49. What is the purpose of the `finalize` method in C#?

- ☐ It is used to release unmanaged resources.
- ☐ It is called automatically by the garbage collector.
- ☐ It can be overridden in classes.
- ☐ It is used to close open files.

****Answer:**** `[✓]` It is used to release unmanaged resources.` , `[✓]` It is called automatically by the garbage collector.

` , `[✓]` It can be overridden in classes.`

50. What is the result of the following code?

```
```csharp
int a = 5, b = 10;
a = a + b - (b = a);
Console.WriteLine(a + ", " + b);
```
```

- [] `10, 5`

- [] `5, 10`

- [] `15, 5`

- [] `5, 15`

****Answer:**** `[✓] 10, 5`