## **C# Interview Questions**

Now, let us take a look at the top C# interview questions that you might face!

### 1. What is C#?

C# is an [object-oriented programming language](https://www.simplilearn.com/tutorials/java-tutorial/oops-interview-questions) compiled by the .Net framework to generate Microsoft Intermediate Language.

Can multiple catch blocks be executed?

No, you cannot execute multiple catch blocks of the same type.

### 2. What is the difference between static, public, and void?

Public declared variables can be accessed from anywhere in the application. Static declared variables can be accessed globally without needing to create an instance of the class. Void is a type modifier which states the method and is used to specify the return type of a method in C#.

### 3. What is an object?

An object is a class instance that can be used to access class methods. The "New" keyword can be used to construct an object.

### 4. Define Constructors.

A [constructor](https://www.simplilearn.com/tutorials/c-sharp-tutorial/c-sharp-constructor) is a member function with the same name as its class. The constructor is automatically invoked when an object is created. While the class is being initialized, it constructs all the values of data members.

### 5. What are Jagged Arrays?

The Array which comprises elements of type array is called Jagged Array. The elements in Jagged Arrays can be of various dimensions and sizes.

### 6. What is the difference between out and ref parameters?

When an argument is passed as a ref, it must be initialized before it can be passed to the method. An out parameter, on the other hand, need not to be initialized before passing to a method.

### 7. What is the benefit of ‘using’ statement in C#?

The ‘using’ statement can be used in order to obtain a resource for processing before automatically disposing it when execution is completed.

### 8. What is serialization?

In order to transport an object through a network, we would need to convert it into a stream of bytes. This process is called Serialization.

### 9. Can “this” command be used within a static method?

No. This is because only static variables/methods can be used in a static method.

### 10. Differentiate between Break and Continue Statement.

Continue statement - Used in jumping over a particular iteration and getting into the next iteration of the[loop.](https://www.simplilearn.com/tutorials/asp-dot-net-tutorial/for-each-loop)

Break statement - Used to skip the next statements of the current iteration and come out of the loop.

### 11. List the different types of comments in C#.

 The different types of comments in C# are:

* XML comments

Example -

/// example of XML comment

* Single Line comments

Example -

// example of single-line comment

* Multi-line comments

Example -

/\* example of an

multiline comment \*/

### 12. Explain the four steps involved in the C# code compilation.

Four steps of code compilation in C# include -

* Source code compilation in managed code.
* Newly created code is clubbed with assembly code.
* The Common Language Runtime (CLR) is loaded.
* Assembly execution is done through CLR.

### 13. Discuss the various methods to pass parameters in a method.

The various methods of passing parameters in a method include -

* Output parameters: Lets the method return more than one value.
* Value parameters: The formal value copies and stores the value of the actual argument, which enables the manipulation of the formal parameter without affecting the value of the actual parameter.
* Reference parameters: The memory address of the actual parameter is stored in the formal argument, which means any change to the formal parameter would reflect on the actual argument too.

### 14. Name all the C# access modifiers.

The C# access modifiers are -

* Private Access Modifier - A private attribute or method is one that can only be accessed from within the class.
* Public Access Modifier - When an attribute or method is declared public, it can be accessed from anywhere in the code.
* Internal Access Modifier - When a property or method is defined as internal, it can only be accessible from the current assembly point of that class.
* Protected Access Modifier - When a user declares a method or attribute as protected, it can only be accessed by members of that class and those who inherit it.

### 15. Mention all the advantages of C#.

The following are the [advantages of C#](https://www.simplilearn.com/c-sharp-programming-for-beginners-article) -

* C# is component-oriented.
* It is an object-oriented language.
* The syntax is really easy to grasp.
* It is easier to learn.
* C# is part of the framework called .NET

### 16. Mention the important IDEs for C# development provided by Microsoft.

The following IDEs’ are useful in C# development -

* MonoDevelop
* Visual Studio Code (VS Code)
* Browxy
* Visual Studio Express (VSE)
* Visual Web Developer (VWD)

### 17. Why do we use C# language?

Below are the reasons why we use the C# language -

* C# is a component-oriented language.
* It is easy to pass parameters in the C# language.
* The C# language can be compiled on many platforms.
* The C# language follows a structured approach.
* It is easy to learn and pick up.
* The C# language produces really efficient and readable programmes.

### 18. Mention the features of C# briefly.

Some of the main features of C# are -

* C# is a safely typed and managed language.
* C# is object-oriented in nature.
* C# is a Cross-platform friendly language.
* C# is a platform-independent language when it comes to compilation.
* C# is general purpose in nature.
* C# is used in implementing Destructors and Constructors.
* C# is part of the .NET framework.
* C# is an easy-to-learn and easy-to-grasp language.
* C# is a structured language.

### 19. What is meant by Unmanaged or Managed Code?

In simple terms, managed code is code that is executed by the CLR (Common Language Runtime). This means that every application code is totally dependent on the .NET platform and is regarded as overseen in light of it. Code executed by a runtime programme that is not part of the .NET platform is considered unmanaged code. Memory, security, and other activities related to execution will be handled by the application's runtime.

### 20. What is the difference between read-only and constants?

During the time of compilation, constant variables are declared as well as initialized. It’s not possible to change this particular value later. On the other hand, read-only is used after a value is assigned at run time.

### 21.What are reference types and value types?

A value type holds a data value inside its memory space. Reference type, on the other hand, keeps the object’s address where the value is stored. It is, essentially, a pointer to a different memory location.

### 22. Describe the accessibility modifier “protected internal”.

Variables or methods that are Protected Internal can be accessed within the same assembly as well as from the classes which have been derived from the parent class.

 24.What is the difference between a Struct and a Class?

Structs are essentially value-type variables, whereas classes would be reference types.

### 25. How to use nullable types in .Net?

When either normal values or a null value can be taken by value types, they are called nullable types.

### 26.What are indexers in C# .NET?

In C#, indexers are called smart arrays. Indexers allow class instances to be indexed in the same way as arrays do.

### 27.What is a Console application?

An application that is able to run in the command prompt window is called a console application.

### 28. What are namespaces in C#?

Namespaces allow you to keep one set of names that is different from others. A great advantage of namespace is that class names declared in one namespace

**29.What is the difference between == and .Equals() in C#?**

* The **==** operator is used to compare the values of two variables, whereas the **.Equals()** method is used to compare the contents of two objects. For reference types, **.Equals()** compares references by default unless overridden.