03 Object-Oriented Programming  
Test your knowledge  
1. What are the six combinations of access modifier keywords and what do they do?

Public, Private, Protected, Internal, Protected Internal, Private Protected

2.What is the difference between the static, const, and readonly keywords when applied to  
a type member?

Static: If you need a field to be a property of a type, and not a property of an instance of that type, use static.

Const: If you know the value will never, ever, ever change for any reason, use const. A const value is also implicitly static.

Readonly: If you're unsure of whether or not the value will change, but you don't want other classes --or code to be able to change it, use readonly.  
3. What does a constructor do?

Constructor is a special method which is invoked automatically at the time of object creation. It is used to initialize the data members of new object generally. The constructor in C# has the same name as class or struct.  
4. Why is the partial keyword useful?

With the help of partial classes, multiple developers can work simultaneously in the same class in different files. With the help of a partial class concept, you can split the UI of the design code and the business logic code to read and understand the code.

When you were working with automatically generated code, the code can be added to the class without having to recreate the source file like in Visual studio. You can also maintain your application in an efficient manner by compressing large classes into small ones.  
5. What is a tuple?

The word Tuple means “a data structure which consists of the multiple parts”. So tuple is a data structure which gives you the easiest way to represent a data set which has multiple values that may/may not be related to each other.  
6. What does the C# record keyword do?

Beginning with C# 9, you use the record keyword to define a reference type that provides built-in functionality for encapsulating data.  
7. What does overloading and overriding mean?

Overloading occurs when two or more methods in one class have the same method name but different parameters.

Overriding occurs when two methods have the same method name and parameters. One of the methods is in the parent class, and the other is in the child class.  
8. What is the difference between a field and a property?

A field is a variable of any type that is declared directly in a class. A property is a member that provides a flexible mechanism to read, write or compute the value of a private field. A field can be used to explain the characteristics of an object or a class.  
9. How do you make a method parameter optional?

We can make a parameter optional by assigning default values for that parameter.  
10. What is an interface and how is it different from abstract class?

An abstract class permits you to make functionality that subclasses can implement or override whereas an interface only permits you to state functionality but not to implement it. A class can extend only one abstract class while a class can implement multiple interfaces.  
11. What accessibility level are members of an interface? Public  
12. True/False. Polymorphism allows derived classes to provide different implementations  
of the same method.  
13. True/False. The override keyword is used to indicate that a method in a derived class is  
providing its own implementation of a method.  
14. True/False. The new keyword is used to indicate that a method in a derived class is  
providing its own implementation of a method.  
15. True/False. Abstract methods can be used in a normal (non-abstract) class.

16.True/False. Normal (non-abstract) methods can be used in an abstract class.

17. True/False. Derived classes can override methods that were virtual in the base class.

18. True/False. Derived classes can override methods that were abstract in the base class.

19. True/False. In a derived class, you can override a method that was neither virtual non abstract in the base class.  
20. True/False. A class that implements an interface does not have to provide an implementation for all of the members of the interface.  
21. True/False. A class that implements an interface is allowed to have other members that  
aren’t defined in the interface.  
22. True/False. A class can have more than one base class.  
23. True/False. A class can implement more than one interface.