***MODULE - 3***

**1.What is C# ?**

**Ans.**

**C# (C-Sharp) is a programming language developed by Microsoft that runs on the .NET Framework.**

**C# is used to develop web apps, desktop apps, mobile apps, games and much more.**

**2. Can we use keywords as an identifier? Why?**

**Ans.**

**Keywords cannot be used as identifiers.**

**Keywords are predefined, reserved words used in programming that have special meanings to the compiler. Keywords are part of the syntax and they cannot be used as an identifier.**

**10. What do you mean by loop variable?**

**Ans.**

**In computer programming, a loop variable is a variable that is set in order to execute some iterations of a "for" loop or other live structure.**

**A loop variable is a classical fixture in programming that helps computers to handle repeated instructions.**

**11. What do you mean by iteration?**

**Ans.**

**In the world of IT and computer programming, the adjective iterative refers to a process where the design of a product or application is improved by repeated review and testing. In programming specifically, iterative refers to a sequence of instructions or code being repeated until a specific end result is achieved.**

**12. What is Array?**

**Ans.**

**An array is a collection of similar types of data. For example, if we want to store the names of 100 people then we can create an array of the string type that can store 100 names.**

**String[] array = new String[100];**

**22. How can we manage runtime errors?**

**Ans.**

**The errors that occur during the execution of a program are called the runtime errors or the exceptions. Some of the examples of runtime erros are Division by Zero, Stack overflow, Invalid type casting, and File not found. Object-Oriented way of error handling is, Classes to handle different types of errors.**

**Exception Handling in C# is a process to handle runtime errors.**

**23. What is abstract class?**

**Ans.**

**It is a Class which Can not be Instantiated But To access its members We have to Inherit into Another Class .**

**24. What is thread?**

**Ans.**

**A thread is defined as the execution path of a program**.

**25. What is dll?**

**Ans.**

**A DLL is a library that contains code and data that can be used by more than one program at the same time.**

**26. What is namespace?**

**Ans.**

**Namespaces are used in C# to keep one set of names separated from another. This is done to organize the classes so that they are easy to handle. If there are two classes with the same names in different namespaces, they do not conflict with one another.**

**29. What is difference between else if ladder and switch case.**

**Ans.**

|  |  |
| --- | --- |
| **If-Else** | **Switch** |
| **The if and else blocks are executed depending on the condition in the if statement** | **The switch statement has multiple cases and the code block corresponding to that case is executed** |
| **Used for integer, character, pointer or floating-point type or Boolean type.** | **Used for character expressions and integers.** |
| **Tests both logical expressions and equality** | **Tests only equality** |
| **If the condition inside the if-statement is false, then the code block under the else condition is executed** | **If the condition inside switch statements does not match any of the cases, the default statement is executed.** |
| **Either the code block in if statement is executed or the code block in else statement.** | **The switch case statement performs each case until a break statement is encountered or the end of the switch statement is reached.** |
| **If you use 'if-else' to implement several options, the speed will be slow.** | **If we have numerous options, the switch statement is the best solution because it executes considerably faster than the 'if-else' statement.** |
| **Difficult to edit nested if-else statements.** | **Easy to edit.** |

**30. What will occur if we not write break statement in switch case?**

**Ans.**

**Without break , the program continues to the next labeled statement, executing the statements until a break or the end of the statement is reached. This continuation may be desirable in some situations. The default statement is executed if no case constant-expression value is equal to the value of expression.**

**31. What is difference between entry loop and exit loop?**

**Ans.**

**Entry controlled loops are used when checking of test condition is mandatory before executing loop body, whereas exit controlled is used when checking of test condition is mandatory after executing.**

**32. What do you mean by multi-dimension array?**

**Ans.**

**A multidimensional array is an array with more than two dimensions. In a matrix, the two dimensions are represented by rows and columns. Each element is defined by two subscripts, the row index and the column index.**

**36. What is difference between for loop and foreach loop?**

**Ans.**

* **For Loops executes a block of code until an expression returns false while ForEach loop executed a block of code through the items in object collections.**
* **For loop can execute with object collections or without any object collections while ForEach loop can execute with object collections only.**
* **The for loop is a normal loop construct which can be used for multiple purposes where as foreach is designed to work only on Collections or IEnumerables object.**

**44. What is dictionary? Advantages of Dictionary?**

**Ans.**

**In C#, Dictionary is a generic collection which is generally used to store key/value pairs.**

**The working of Dictionary is quite similar to the non-generic hashtable. The advantage of Dictionary is, it is generic type. Dictionary is defined under System.**

**45. What is multithread?**

**Ans.**

**Multithreading in C# is a process to execute multiple threads simultaneously to run multiple programs or tasks at a time. It is a process to achieve multitasking that allows you to run multiple jobs in parallel.**

**48. What is mutable and immutable string?**

**Ans.**

**Mutable types are those whose data members can be changed after the instance is created but Immutable types are those whose data members can not be changed after the instance is created.**

**51. What is difference between array and list?**

**Ans.**

**Array stores data of the same sort, whereas Array List stores data within the type of the object, which can be of various sorts. The size of An Array List grows dynamically, whereas Array size remains static throughout the program.**

**63. What is use of method overriding?**

**Ans.**

**An override method provides a new implementation of the method inherited from a base class. The method that is overridden by an override declaration is known as the overridden base method. An override method must have the same signature as the overridden base method.**