Assignment-2: Theory

1. What is conditional statement?

A: Java, like all other programming languages, is equipped with specific statements that allow us to check a condition and execute certain parts of code depending on whether the condition is true or false. Such statements are called conditional, and are a form of composite statement.

2.Write the syntax of switch..case statement.

A:switch (variable/expression)

{

case value1:

// statements of case1

break;

case value2:

// statements of case2

break;

.. .. ...

.. .. ...

default:

// default statements

}

1. Write the difference between break and continue statement.

A: Break leaves the loop completely and executes the statements after the loop. Whereas Continue leaves the current iteration and executes with the next value in the loop. break completely exits the loop. continue skips the statements after the continuestatement and keeps looping.

4.What is looping statement?

A: Looping statement are the statements execute one or more statement repeatedly several number of times. In Java programming language there are three types of loops; while, for and do-while.

1. Write the difference between while and do..while statement.

A: These statements are commonly called loops. Here, the main difference between a while loop and do while loop is that whileloop check condition before iteration of the loop. On the other hand, the do-while loop verifies the condition after the execution of the statements inside the loop.

6. What is array? How it is created?

A: Java provides a data structure, the array, which stores a fixed-size sequential collection of elements of the same type. An array is used to store a collection of data, but it is often more useful to think of an array as a collection of variables of the same type.

Obtaining an array is a two-step process. First, you must declare a variable of the desired array type. Second, you must allocate the memory that will hold the array, using new, and assign it to the array variable. Thus, in Java all arrays are dynamically allocated.

7. What is class?

A: A class is a user defined blueprint or prototype from which objects are created.  It represents the set of properties or methods that are common to all objects of one type.

8. What is constructor?

A: A constructor in Java is a **special method** that is used to initialize objects. The constructor is called when an object of a class is created. It can be used to set initial values for object attributes.

9. What is the use of copy constructor?

A: A copy constructor in a Java class is a constructor that creates an object using another object of the same Java class. That's helpful when we want to copy a complex object that has several fields, or when we want to make a deep copy of an existing object.

1. What is the use of this keyword?

A: The this keyword refers to the current object in a method or constructor. The most common use of the this keyword is to eliminate the confusion between class attributes and parameters with the same name (because a class attribute is shadowed by a method or constructor parameter).

1. What is method overloading?

A: Method Overloading is a feature that allows a class to have more than one method having the same name, if their argument lists are different.

12. What is static variable?

A: Static variable in Java is variable which belongs to the class and initialized only once at the start of the execution. It is a variable which belongs to the class and not to object(instance ). Static variables are initialized only once, at the start of the execution.

13. What is access modifier?

A: A *Java access modifier* specifies which classes can access a given class and its fields, constructors and methods. Access modifiers can be specified separately for a class, its constructors, fields and methods. Java access modifiers are also sometimes referred to in daily speech as *Java access specifiers*, but the correct name is Java access modifiers. Classes, fields, constructors and methods can have one of four different Java access modifiers:

* private
* default (package)
* protected
* Public

1. Write the difference between instance and static methods.

A: Instance method are methods which require an object of its class to be created before it can be called. Static methods are the methods in Java that can be called without creating an object of class.

15. What is object? How it is created?

A: An entity that has state and behavior is known as an object.An object has three characteristics:State,Behaviour and Identity.

An object is created from a class. In Java, the new keyword is used to create new objects.

There are three steps when creating an object from a class −

**Declaration** − A variable declaration with a variable name with an object type.

**Instantiation** − The 'new' keyword is used to create the object.

**Initialization** − The 'new' keyword is followed by a call to a constructor. This call initializes the new object.