

OOPS ASSIGNMENT (Assignment -8)

Ans 1:

To create an object in Java, you use the new keyword followed by the constructor of the class. For example:

```
ClassName objectName = new ClassName();
```

Ans 2:

In Java, the new keyword is used to create an instance of a class or to allocate memory for an object. When you use new, you are essentially asking the Java runtime to allocate memory for an object of a specified class, and it returns a reference (or address) to that newly created object.

Ans 3.

In Java, there are several types of variables, including:

Local Variables: Variables defined within a method or block of code.

Instance Variables (Non-static fields): Variables defined within a class but outside any method, constructor, or block. Each object of the class has its own copy.

Class Variables (Static fields): Variables that are declared as static within a class. They are shared among all instances of the class.

Ans 4.

The main difference between instance variables and local variables is their scope and lifespan.

- Instance Variables: These variables are associated with an instance of the class. They exist as long as the object to which they belong exists.
- Local Variables: These variables are declared within a method or block and exist only for the duration of that method or block. They are not accessible outside that method or block.

Ans 5.

Memory for instance variables is allocated in the heap memory when an object is created using the new keyword. Each object gets its own copy of the instance variables.

Memory for local variables is allocated on the stack memory when the method or block is entered and deallocated when the method or b

Ans6.

Method overloading in Java refers to the ability to define multiple methods in the same class with the same name but different parameters. The methods must have a different number or type of parameters. This allows you to use the same method name for different behaviors, based on the type or number of input parameters.