



Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

Experiment No. 3
Implement a program that demonstrates the concepts of class and objects
Date of Performance:
Date of Submission:



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Aim: Implement a program that demonstrates the concepts of class and objects

Objective: To develop the ability of converting real time entity into objects and create their classes.

Theory:

A class is a user defined blueprint or prototype from which objects are created. It represents the set of properties i.e., members and methods that are common to all objects of one type. In general, class declarations can include these components, in order:

1. Modifiers: A class can be public or has default access.
2. class keyword: class keyword is used to create a class.
3. Class name: The name should begin with a initial letter (capitalized by convention).
4. Superclass (if any): The name of the class's parent (superclass), if any, preceded by the keyword extends. A class can only extend (subclass) one parent.
5. Interfaces (if any): A comma-separated list of interfaces implemented by the class, if any, preceded by the keyword implements. A class can implement more than one interface.
6. Body: The class body surrounded by braces, {}.

An OBJECT is a basic unit of Object-Oriented Programming and represents the real-life entities. A typical Java program creates many objects, which interact by invoking methods. An object consists of:

1. State: It is represented by attributes of an object. It also reflects the properties of an object.
2. Behavior: It is represented by methods of an object. It also reflects the response of an object with other objects.
3. Identity: It gives a unique name to an object and enables one object to interact with other objects.



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Code:

PROGRAM ON CLASS AND OBJECT

Example 1

```
class Student
{
int id;
String name;
public static void main(String args[])
{
Student s1=new Student();
System.out.print(s1.id);
System.out.print(s1.name);
}
}
```

OUTPUT

```
C:\Users\Sharvari A Bhondekar\OneDrive\Desktop\JAVA PROGRAMS\Exp 3>javac Student.java
C:\Users\Sharvari A Bhondekar\OneDrive\Desktop\JAVA PROGRAMS\Exp 3>java Student.java
0null
```

Example 2

code:

```
class Employee
{
int id=123;
String name="UT";
public static void main(String args[])
{
Employee e1=new Employee();
System.out.print(e1.id);
System.out.print(e1.name);
}
}
```

OUTPUT:

```
C:\Users\Sharvari A Bhondekar\OneDrive\Desktop\JAVA PROGRAMS\Exp 3>javac Employee.java
C:\Users\Sharvari A Bhondekar\OneDrive\Desktop\JAVA PROGRAMS\Exp 3>java Employee.java
123UT
```



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Conclusion:

Comment on how you create a class template and their objects.

Class Template: A class is defined by specifying its attributes (fields) and behaviors (methods) using the class keyword.

Object Creation: Objects are instances of a class, created using the new keyword to allocate memory and initialize the instance.