



Vidyavardhini's College of Engineering & Technology  
Department of Computer Science And Engineering (Data Science)

---

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



# Vidyavardhini's College of Engineering & Technology

## Department of Computer Science And Engineering (Data Science)

---

**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.



Vidyavardhini's College of Engineering & Technology  
Department of Computer Science And Engineering (Data Science)

---

**Code:**

```
import java.util.Scanner;

public class Student {
    private String name;
    private int rollNumber;

    public Student() {
        this.name = "";
        this.rollNumber = 0;
    }

    public Student(String name, int rollNumber) {
        this.name = name;
        this.rollNumber = rollNumber;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public int getRollNumber() {
        return rollNumber;
    }

    public void setRollNumber(int rollNumber) {
```



# Vidyavardhini's College of Engineering & Technology

## Department of Computer Science And Engineering (Data Science)

---

```
this.rollNumber = rollNumber;
}

public void printDetails() {
    System.out.println("Name: " + this.name);
    System.out.println("Roll Number: " + this.rollNumber);
}

public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);

    System.out.println("Enter your name: ");
    String name = scanner.nextLine();

    System.out.println("Enter your roll number: ");
    int rollNumber = scanner.nextInt();

    Student student = new Student(name, rollNumber);

    student.printDetails();
}
}
```



# Vidyavardhini's College of Engineering & Technology

## Department of Computer Science And Engineering (Data Science)

---

### Output:

```
Output

java -cp /tmp/L40PU56o05 Student
Enter your name:
sanika
Enter your roll number:
67
Name: sanika
Roll Number: 67
|
```

### Conclusion:

Classes are used to represent real-world entities, such as students, cars, and books. Classes can also be used to represent abstract concepts, such as numbers and strings.

Classes define the data and behavior of the objects that are created from them. Data is represented by fields, and behavior is represented by methods.

This would create a new object with the empty fields and methods defined by the Student class. You can then use the . operator to access the fields and methods of the object.