Name: Satlas Rohit B

Regno:2024503305

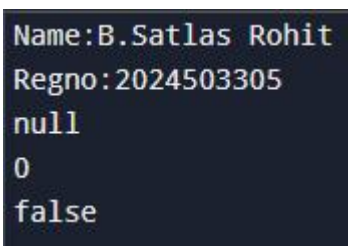
Java Assignment-2

Week-2

4.1 Code

```
class Athlete {
   String name;
   int energy;
   boolean isActive;
}
public class Main {
   public static void main(String[] args) {
      System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
      Athlete a1 = new Athlete();
      System.out.println(a1.name);
      System.out.println(a1.energy);
      System.out.println(a1.isActive);
   }
}
```

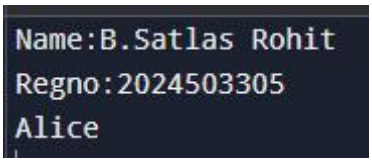
Output:



4.2 Code

```
class Player {
   String name;
   int score;
   Player(String name) {
      this.name = name;
   }
}
public class Main {
   public static void main(String[] args) {
      System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
      Player p2 = new Player("Alice");
      System.out.println(p2.name);
   }
}
```

Output:

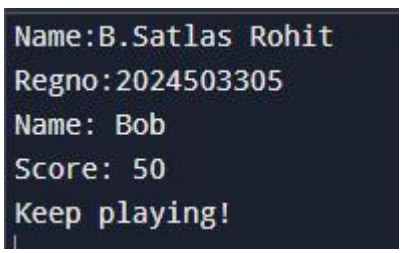


4.3 Code

```
class GamePlayer {
   String name;
   int score;
   GamePlayer(String name, int score) {
```

```
        this.name = name;
        this.score = score;
    }
    void display() {
        System.out.println("Name: " + this.name);
        System.out.println("Score: " + this.score);
        this.showMessage();
    }
    void showMessage() {
        System.out.println("Keep playing!");
    }
}
public class Main {
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        GamePlayer p = new GamePlayer("Bob", 50);
        p.display();
    }
}
```

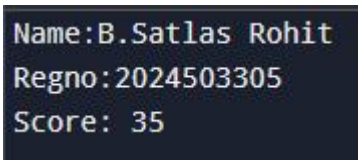
Output:



4.4 Code

```
class Player {
   int score;
   Player(int score) {
      this.score = score;
   }
   Player increaseScore(int points) {
      this.score += points;
      return this;
   }
   void show() {
      System.out.println("Score: " + this.score);
   }
}
public class Main {
   public static void main(String[] args) {
      System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
      Player p = new Player(10);
      p.increaseScore(20).increaseScore(5);
      p.show();
   }
}
```

Output:



4.5 Code

```
class Athlete {
   String name;
   int energy;
   Athlete() {
      this("Default Player");
      System.out.println("Default constructor called");
   }
   Athlete(String name) {
      this.name = name;
      this.energy = 100;
      System.out.println("Parameterized constructor called");
   }
}
public class Main {
   public static void main(String[] args) {
      System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
      Athlete a = new Athlete();
   }
}
```

Output:

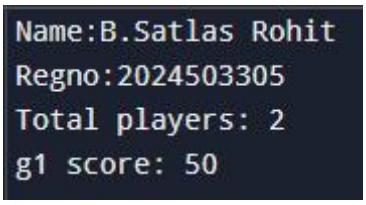
```
Name:B.Satlas Rohit
Regno:2024503305
Parameterized constructor called
Default constructor called
```

4.6 Code

```
class Game {
    static int totalPlayers = 0;
    int score;
    Game(int score) {
        this.score = score;
        totalPlayers++;
    }
    static void showTotalPlayers() {
        System.out.println("Total players: " + totalPlayers);
    }
}
public class Main {
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        Game g1 = new Game(50);
        Game g2 = new Game(70);
        Game.showTotalPlayers();
        System.out.println("g1 score: " + g1.score);
    }
```

```
}
```

Output:

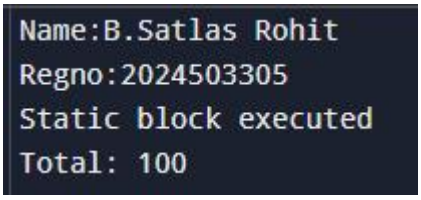


4.7 Code

```
class StaticDemo {
    static int total;
    static {
        total = 100;
        System.out.println("Static block executed");
    }
    int score;
    void show() {
        System.out.println("Score: " + score);
    }
}
public class Main {
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        StaticDemo s = new StaticDemo();
        System.out.println("Total: " + StaticDemo.total);
    }
```

```
}
```

Output:

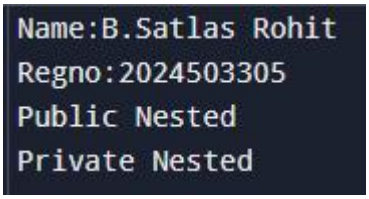


4.8 Code

```
class OuterStatic {
    static class PublicNested {
        void display() { System.out.println("Public Nested"); }
    }
    private static class PrivateNested {
        void display() { System.out.println("Private Nested"); }
    }
    void accessPrivateNested() {
        PrivateNested pn = new PrivateNested();
        pn.display();
    }
}
public class Main {
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        OuterStatic.PublicNested pub = new OuterStatic.PublicNested();
        pub.display();
```

```
        OuterStatic outer = new OuterStatic();
        outer.accessPrivateNested();
    }
}
```

Output:

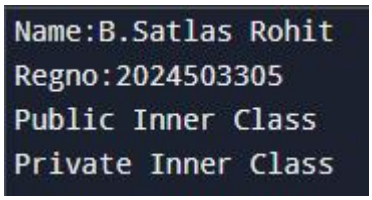


4.9 Code

```
class OuterInner {
    class PublicInner {
        void show() { System.out.println("Public Inner Class"); }
    }
    private class PrivateInner {
        void show() { System.out.println("Private Inner Class"); }
    }
    void accessPrivateInner() {
        PrivateInner pi = new PrivateInner();
        pi.show();
    }
}
public class Main {
    public static void main(String[] args) {
```

```
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        OuterInner outer = new OuterInner();
        OuterInner.PublicInner pub = outer.new PublicInner();
        pub.show();
        outer.accessPrivateInner();
    }
}
```

Output:



4.10 Code

```
class MyLinkedList {
    private static class Node {
        int data;
        Node next;
        Node(int data) { this.data = data; }
    }
    private Node head;
    void addNode(int data) {
        Node newNode = new Node(data);
        if (head == null) head = newNode;
        else {
```

```
        Node temp = head;
        while (temp.next != null) temp = temp.next;
        temp.next = newNode;
    }
}
void deleteNode(int data) {
    if (head == null) return;
    if (head.data == data) { head = head.next; return; }
    Node temp = head;
    while (temp.next != null && temp.next.data != data) temp = temp.next;
    if (temp.next != null) temp.next = temp.next.next;
}
void display() {
    Node temp = head;
    while (temp != null) {
        System.out.print(temp.data + " -> ");
        temp = temp.next;
    }
    System.out.println("null");
}
boolean search(int data) {
    Node temp = head;
    while (temp != null) {
        if (temp.data == data) return true;
```

```
            temp = temp.next;
        }
        return false;
    }
}
public class Main {
    public static void main(String[] args) {
        System.out.println("Name:B.Satlas Rohit\nRegno:2024503305");
        MyLinkedList list = new MyLinkedList();
        list.addNode(10);
        list.addNode(20);
        list.addNode(30);
        list.display();
        list.deleteNode(20);
        list.display();
        System.out.println(list.search(30) ? "Node 30 found" : "Node not found");
    }
}
```

Output:

```
Name:B.Satlas Rohit
Regno:2024503305
10 -> 20 -> 30 -> null
10 -> 30 -> null
Node 30 found
```