

ID:2200031069

Name: K. Deepak

3A)

code:

```
package endsem;

public class Student implements Cloneable {
    private String name;
    private int rollNumber;
    private int marks;

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

    @Override
    public Object clone() {
        try {
            return super.clone();
        } catch (CloneNotSupportedException e) {
            return null;
        }
    }

    public void display() {
        System.out.println("Name: " + name);
        System.out.println("Roll Number: " + rollNumber);
        System.out.println("Marks: " + marks);
    }

    public static void main(String[] args) {

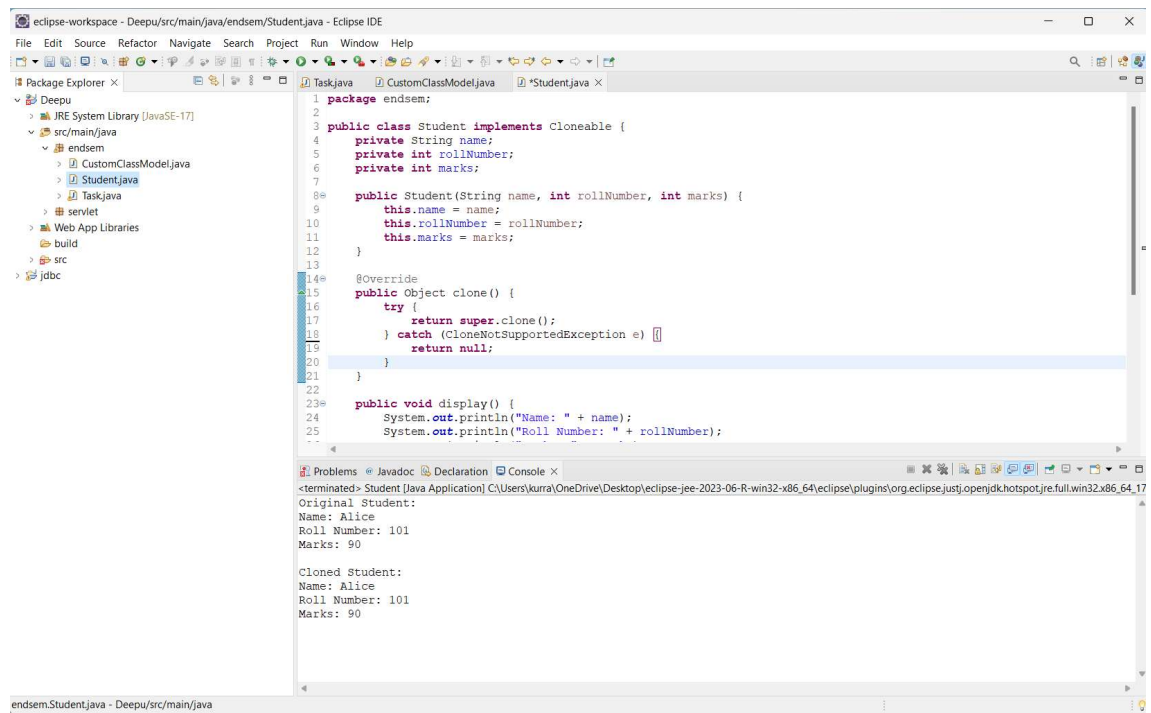
        Student originalStudent = new Student("Alice", 101, 90);

        Student clonedStudent = (Student) originalStudent.clone();

        System.out.println("Original Student:");
        originalStudent.display();

        System.out.println("\nCloned Student:");
        clonedStudent.display();
    }
}
```

## Output:



## 3B)

### code:

```
package endsem;

import java.util.PriorityQueue;

public class Task implements Comparable<Task> {
    private String name;
    private int priority;

    public Task(String name, int priority) {
        this.name = name;
        this.priority = priority;
    }

    public String getName() {
        return name;
    }

    public int getPriority() {
        return priority;
    }

    @Override
    public int compareTo(Task otherTask) {
        // Compare tasks based on their priority
        return Integer.compare(this.priority, otherTask.priority);
    }
}
```

```

package endsem;

import java.util.PriorityQueue;

public class CustomClassModel {
    public static void main(String[] args) {

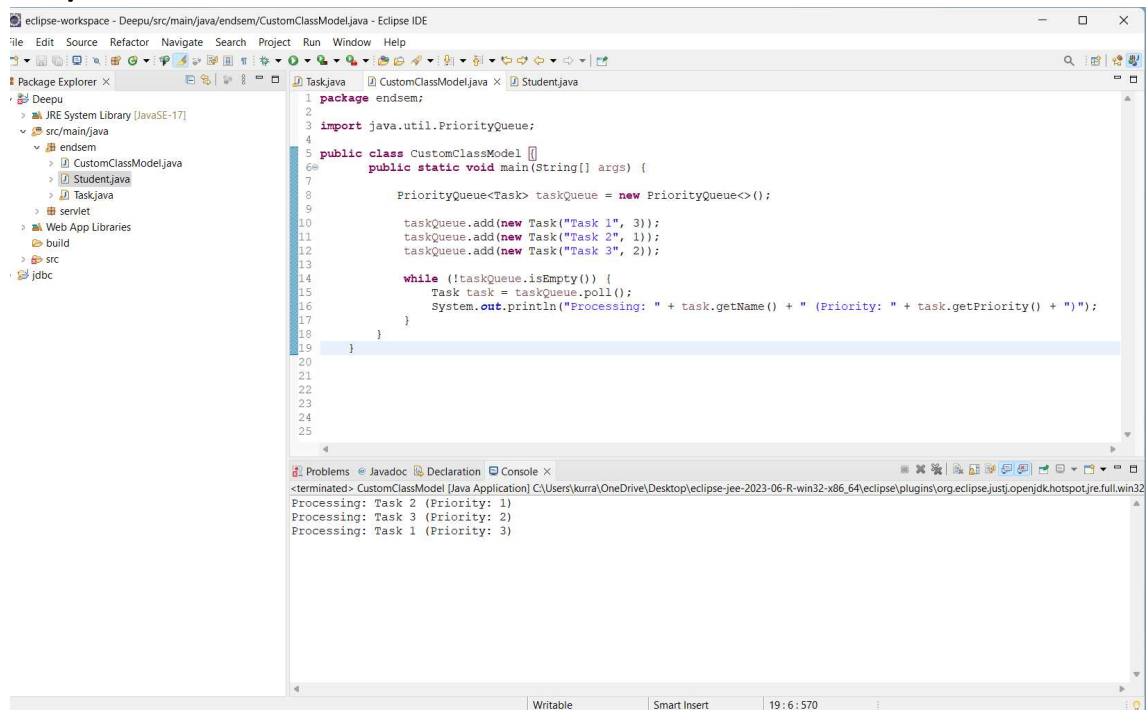
        PriorityQueue<Task> taskQueue = new PriorityQueue<>();

        taskQueue.add(new Task("Task 1", 3));
        taskQueue.add(new Task("Task 2", 1));
        taskQueue.add(new Task("Task 3", 2));

        while (!taskQueue.isEmpty()) {
            Task task = taskQueue.poll();
            System.out.println("Processing: " + task.getName() + "
(Priority: " + task.getPriority() + ")");
        }
    }
}

```

## Output:



The screenshot shows the Eclipse IDE with the following components:

- Package Explorer:** Shows the project structure with packages like `endsem`, `Taskjava`, and `Studentjava`.
- Editor:** Displays the source code of `CustomClassModel.java`, which is the same code as shown in the previous block.
- Console:** Shows the output of the program:
 

```

<terminated> CustomClassModel [Java Application] C:\Users\kurra\OneDrive\Desktop\eclipse-jee-2023-06-R-win32-x86_64\eclipse\plugins\org.eclipse.justopenjdk.hotspot.jre.full.win32
Processing: Task 2 (Priority: 1)
Processing: Task 3 (Priority: 2)
Processing: Task 1 (Priority: 3)

```