CSCI 2302
Objects & Classes Chapter
Creating Object Lab

Using the UML diagram created in the UML Diagram Lab, implement the Java code. After defining the code, implement a "test" program.
Complete the following in the test program:

- instantiate an object
- change one of the states
- print the value of that state
- invoke the additional behavior

Luggage
- brand: String - weight: float - capacity: float
+ Luggage() + Luggage(brand: String, weight: float, capacity: float) + setBrand(brand: String): void + getBrand(): String + setWeight(weight: float): void + getWeight(): float + setCapacity(capacity: float): void + getCapacity(): float + isOverweight(limit: float): boolean + toString(): String

```
public class Luggage {

    // States (Attributes)
    private String brand;
    private float weight;
    private float capacity;

    // Default Constructor
    public Luggage() {
        this.brand = "Unknown";
        this.weight = 0.0f;
        this.capacity = 0.0f;
    }

    // Parameterized Constructor
    public Luggage(String brand, float weight, float capacity) {
        this.brand = brand;
        this.weight = weight;
```

```
        this.capacity = capacity;
    }

    // Setters (Mutators)
    public void setBrand(String brand) {
        this.brand = brand;
    }

    public void setWeight(float weight) {
        this.weight = weight;
    }

    public void setCapacity(float capacity) {
        this.capacity = capacity;
    }

    // Getters (Accessors)
    public String getBrand() {
        return this.brand;
    }

    public float getWeight() {
        return this.weight;
    }

    public float getCapacity() {
        return this.capacity;
    }

    // Additional behavior
    public boolean isOverweight(float limit) {
        return this.weight > limit;
    }

    // toString method
    @Override
    public String toString() {
        return "Luggage [Brand: " + this.brand + ", Weight: " +
this.weight + "kg, Capacity: " + this.capacity + " liters]";
    }
}
```

```
public class TestProgram{

     public static void main(String [] args){

          UML_DiagramIntoCode obj = new UML_DiagramIntoCode();
          obj.setState2('q');
          System.out.println(obj.getState2());
          Obj.method2();
     }// end main
}// end TestProgram
```