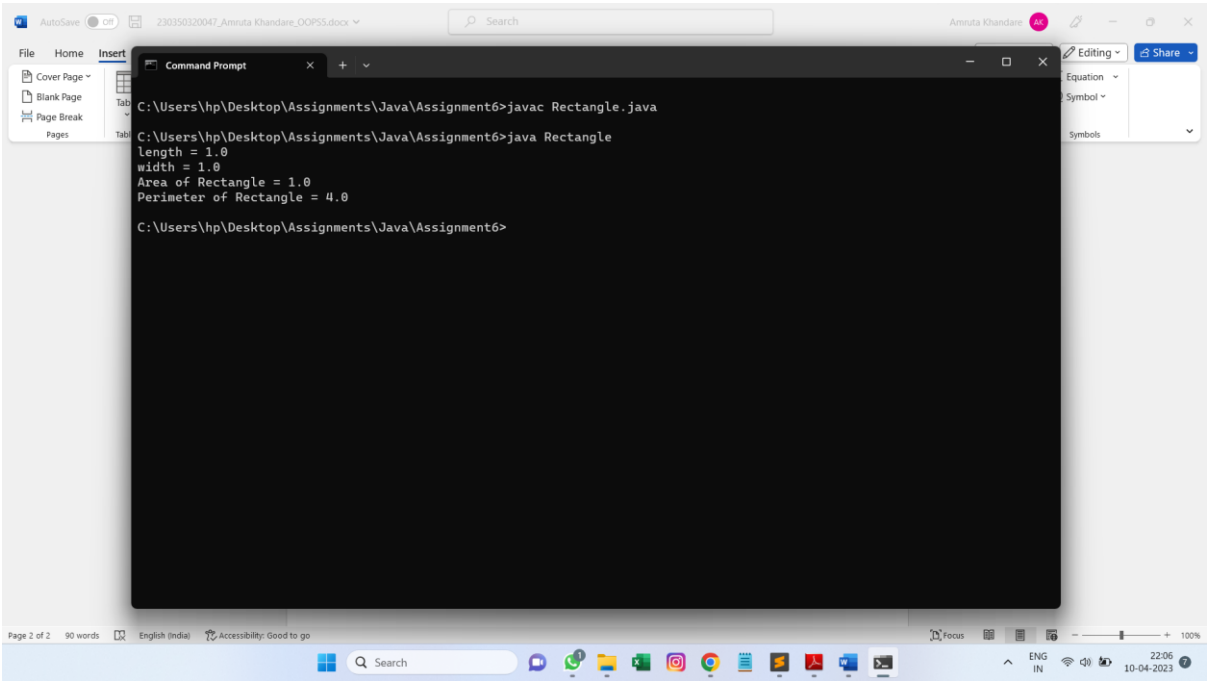
# 230350320047_Amruta Khandare_OOPS6

Q1:

```
class Rectangle{
	float length = 1.0f;
	float width = 1.0f;
	public Rectangle(float length, float width){
		this.length = length;
		this.width = width;
	}
	public void setLength(float length){
		this.length = length;
	}
	public void getLength(){
		System.out.println("length = "+length);
	}
	public void setWidth(float width){
		this.width = width;
	}
	public void getWidth(){
		System.out.println("width = "+width);
	}
	public void getArea(){
		System.out.println("Area of Rectangle = "+this.length*this.width);
	}
	public void getPerimeter(){
```

```
            System.out.println("Perimeter of Rectangle =
"+2*(this.length+this.width));
        }
            public static void main(String[] args){
                Rectangle r1 = new Rectangle(1.0f, 1.0f);
                r1.getLength();
                r1.getWidth();
                r1.getArea();
                r1.getPerimeter();
        }
}
```



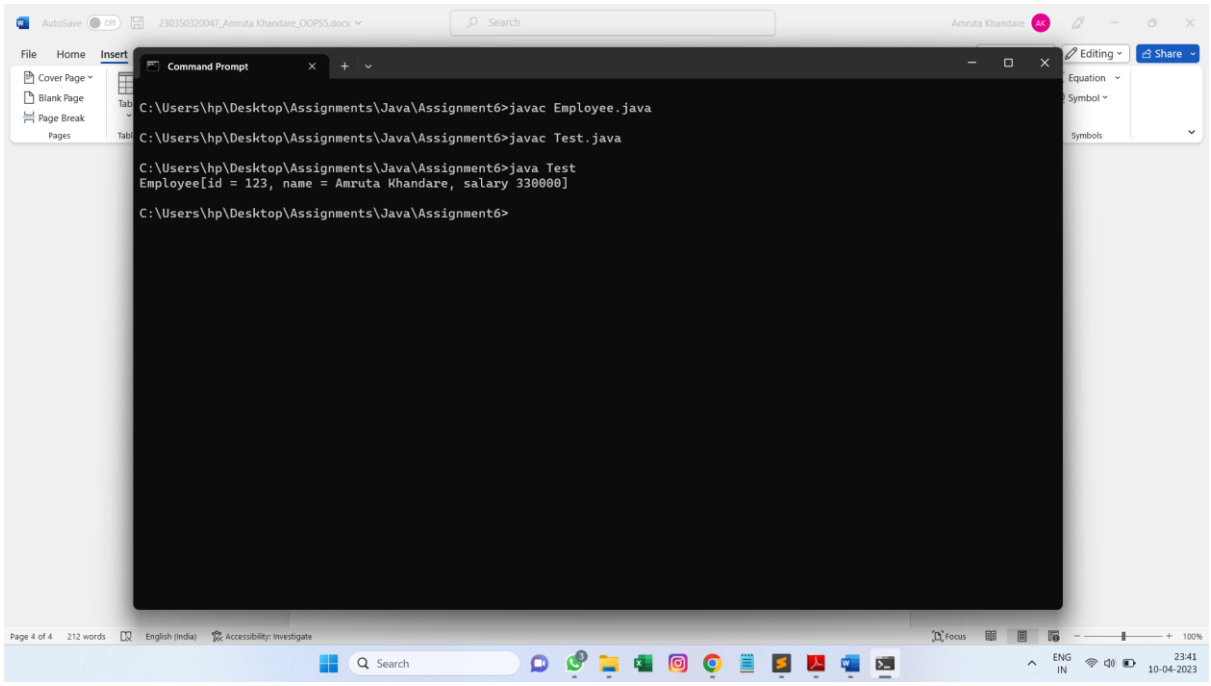
Q2:

```
class Employee{
	int id;
	String firstName;
	String lastName;
	int salary;

	public void setEmployee(int id, String firstName, String lastName, int salary){
		this.id = id;
		this.firstName = firstName;
		this.lastName = lastName;
		this.salary = salary;
	}
	public int getID(){
		return id;
	}
	public String getFirstName(){
		return firstName;
	}
	public String getLastName(){
		return lastName;
	}
	public String getName(){
		return firstName+" "+lastName;
	}
	public int getSalary(){
```

```
		return salary;
	}
	public void setSalary(int salary){
		this.salary = salary;
	}
	public void getAnnualSalary(){
		System.out.println(salary*12);
	}
	public void raiseSalary(){
		salary = (salary*12)+((salary*12)*10/100);
		System.out.println(salary);
	}
	public String toString(){
		return "Employee[id = "+id+", name = "+firstName+"
"+lastName+", salary "+((salary*12)+((salary*12)*10/100))+"]";
	}
}
```

---

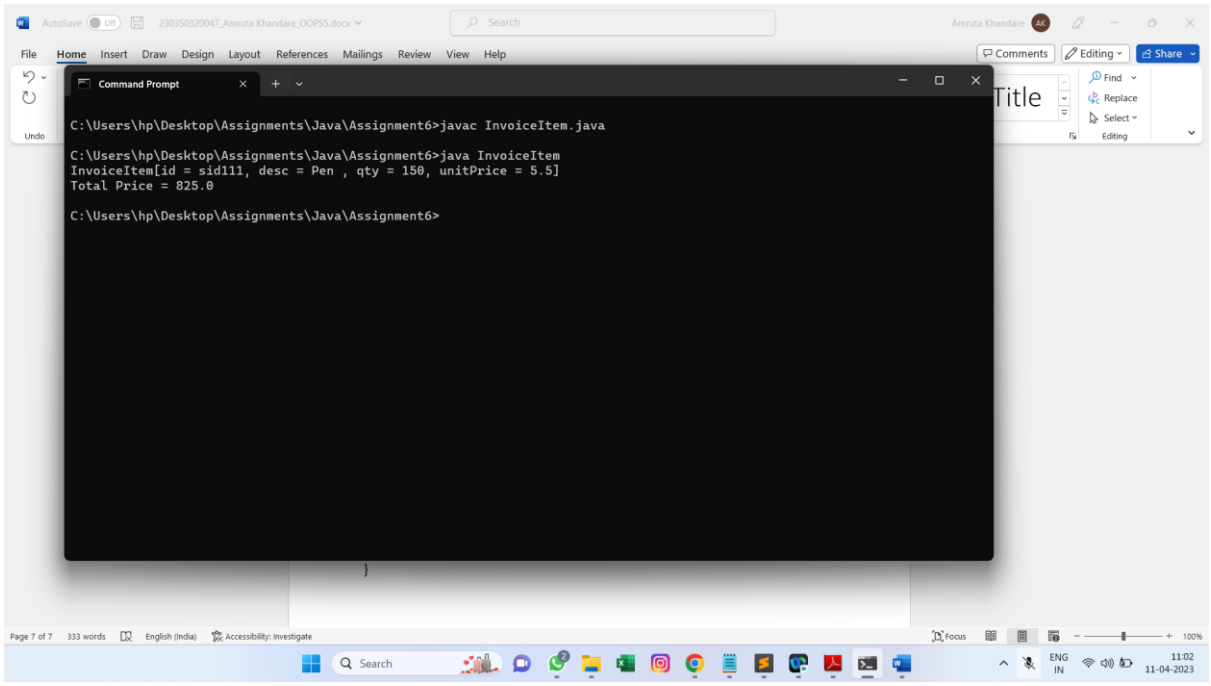
```
class Test extends Employee{
	public static void main(String[] args){
		Employee e1 = new Employee();
		e1.setEmployee(123, "Amruta", "Khandare", 25000);
		System.out.println(e1);
	}
}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment6>javac Employee.java
C:\Users\hp\Desktop\Assignments\Java\Assignment6>javac Test.java
C:\Users\hp\Desktop\Assignments\Java\Assignment6>java Test
Employee[id = 123, name = Amruta Khandare, salary 330000]
C:\Users\hp\Desktop\Assignments\Java\Assignment6>

Q3:

```
class InvoiceItem{
	private String id;
	private String desc;
	private int qty;
	private double unitPrice;

	public InvoiceItem(String id, String desc, int qty, double unitPrice){
		this.id = id;
		this.desc = desc;
		this.qty = qty;
		this.unitPrice = unitPrice;
	}
	public String getID(){
		return id;
	}
	public String getDesc(){
		return desc;
	}
	public int getQty(){
		return qty;
	}
	public void setQty(int qty){
		this.qty = qty;
	}
	public double getUnitPrice(){
```

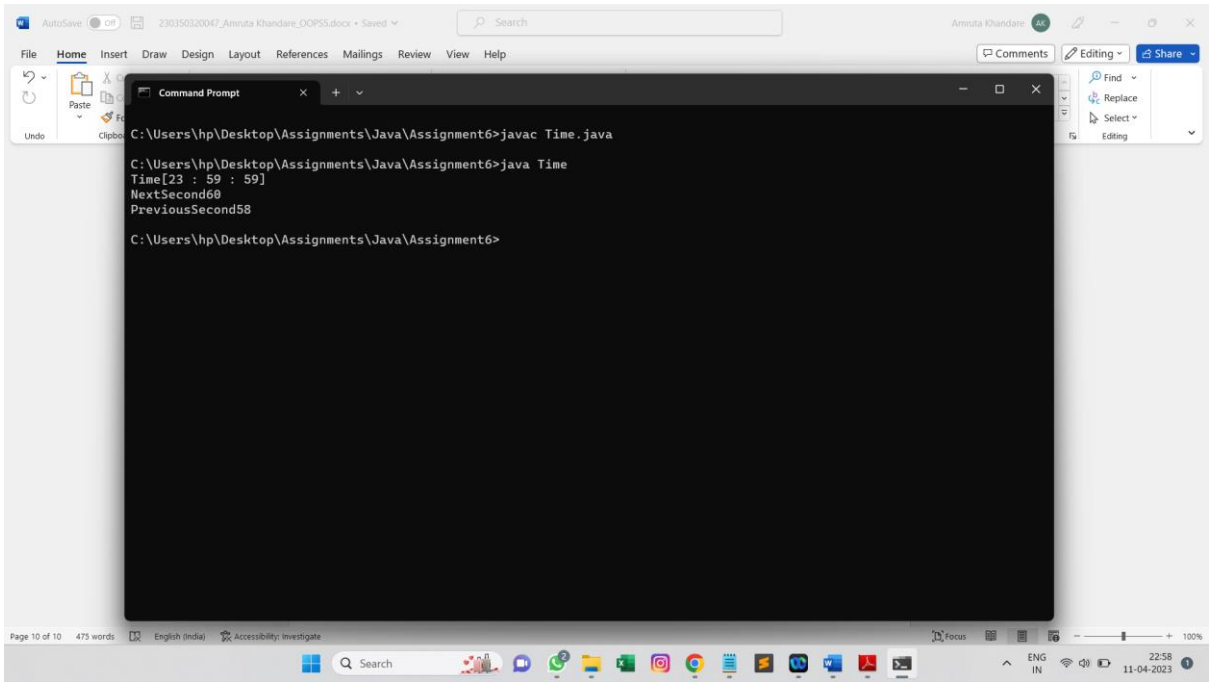
```
        return unitPrice;
    }
    public void setUnitPrice(double unitPrice){
        this.unitPrice = unitPrice;
    }
    public double getTotal(){
        return unitPrice*qty;
    }
    public String toString(){
        return "InvoiceItem[id = "+id+", desc = "+desc+" "+", qty = "+qty+",
unitPrice = "+unitPrice+"]";
    }
    public static void main(String[] args){
        InvoiceItem i1 = new InvoiceItem("sid111", "Pen", 150, 5.5);
        System.out.println(i1);
        System.out.println("Total Price = "+i1.getTotal());
    }
}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment6>javac InvoiceItem.java
C:\Users\hp\Desktop\Assignments\Java\Assignment6>java InvoiceItem
InvoiceItem[id = sid111, desc = Pen , qty = 150, unitPrice = 5.5]
Total Price = 825.0
C:\Users\hp\Desktop\Assignments\Java\Assignment6>

Q4:

```
public class Time{
	private int hour;
	private int minute;
	private int second;
	public void Time(int hour, int minute, int second){
		this.hour = hour;
		this.minute = minute;
		this.second = second;
	}
	public int getHour(){
		return hour;
	}
	public int getMinute(){
		return minute;
	}
	public int getSecond(){
		return second;
	}
	public void setHour(int hour){
		this.hour = hour;
	}
	public void setMinute(int hour){
		this.minute = minute;
	}
	public void setSecond(int hour){
```

```
        this.second = second;
    }
    public int nextSecond(){
        return second + 1;
    }
    public int previousSecond(){
        return second - 1;
    }
    public void setTime(int hour, int minute, int second){
        this.hour = hour;
        this.minute = minute;
        this.second = second;
    }
    public String toString(){
        return "Time["+hour+" : "+minute+" : "+second+"]";
    }
    public static void main(String[] args) {
        Time t1 = new Time();
        t1.hour = 23;
        t1.minute = 59;
        t1.second = 59;
        System.out.println(t1);
        System.out.println("NextSecond"+t1.nextSecond());
        System.out.println("PreviousSecond"+t1.previousSecond());
    }
}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment6>javac Time.java
C:\Users\hp\Desktop\Assignments\Java\Assignment6>java Time
Time[23 : 59 : 59]
NextSecond60
PreviousSecond58
C:\Users\hp\Desktop\Assignments\Java\Assignment6>

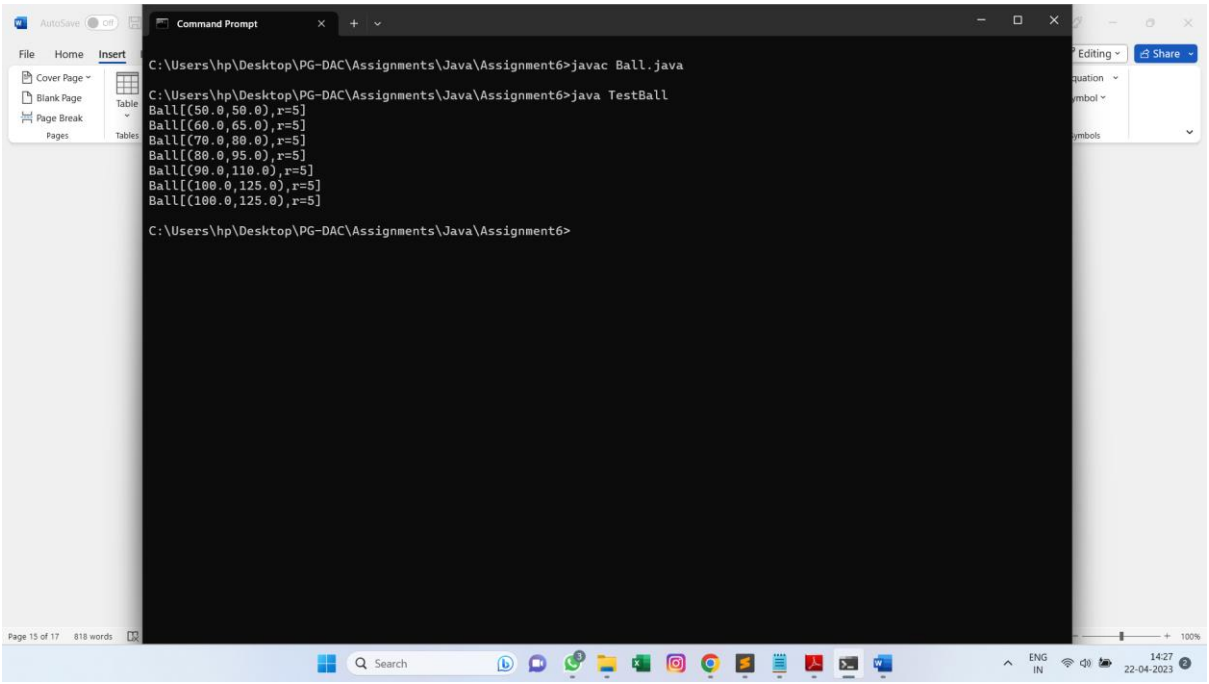
Q5:

```
public class Ball {
    private float x;
    private float y;
    private int radius;
    private float xDelta;
    private float yDelta;

    public Ball(float x, float y, int radius, float xDelta, float yDelta) {
        this.x = x;
        this.y = y;
        this.radius = radius;
        this.xDelta = xDelta;
        this.yDelta = yDelta;
    }

    public float getx() {
        return x;
    }

    public void setx(float x) {
        this.x = x;
    }

    public float gety() {
        return y;
```

```
}

public void sety(float y) {
   this.y = y;
}

public int getRadius() {
   return radius;
}

public void setRadius(int radius) {
   this.radius = radius;
}

public float getXDelta() {
   return xDelta;
}

public void setXDelta(float xDelta) {
   this.xDelta = xDelta;
}

public float getYDelta() {
   return yDelta;
}
```

```
    public void setYDelta(float yDelta) {
        this.yDelta = yDelta;
    }

    public void move() {
        x += xDelta;
        y += yDelta;
    }

    public void reflectHorizontal() {
        xDelta = -xDelta;
    }

    public void reflectVertical() {
        yDelta = -yDelta;
    }

    public String toString() {
        return "Ball[(" + x + "," + y + "),r=" + radius + "]";
    }
}
class TestBall {
    public static void main(String[] args) {
        Ball ball = new Ball(50, 50, 5, 10, 15);
        System.out.println(ball);
```

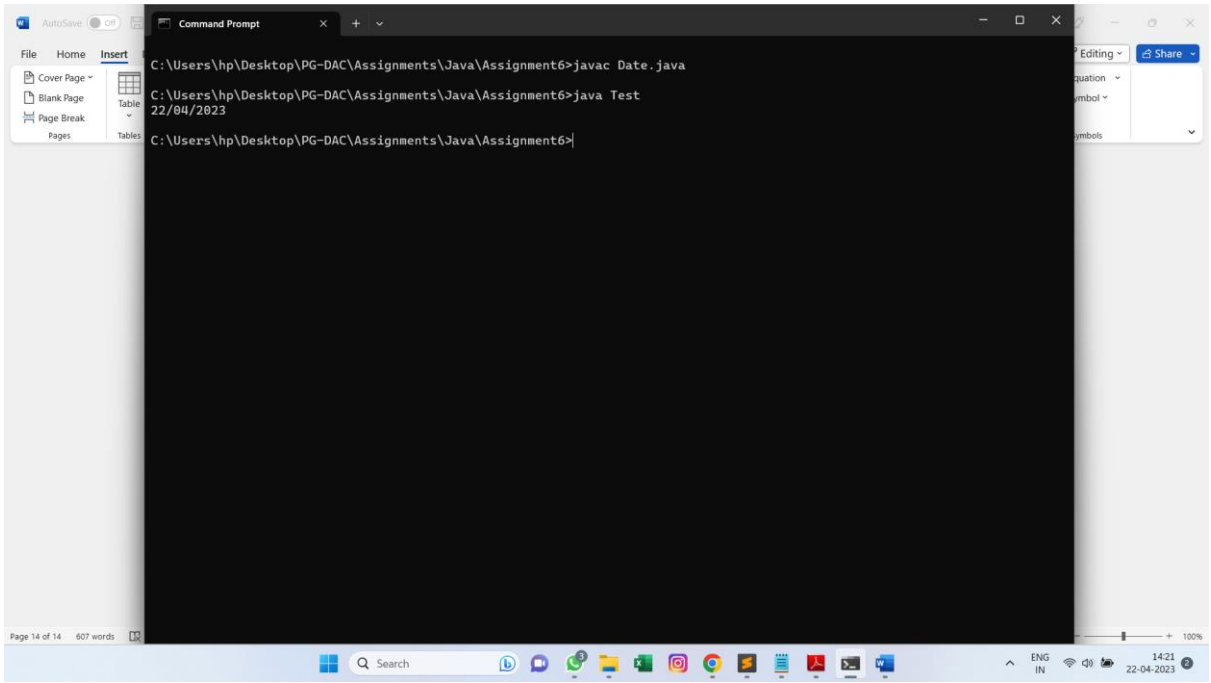
```
        for (int i = 0; i < 5; i++) {
            ball.move();
            System.out.println(ball);
        }

        ball.reflectHorizontal();
        ball.reflectVertical();
        System.out.println(ball);
    }
}
```



Q6:

```
public class Date {
    private int day;
    private int month;
    private int year;

    public Date(int day, int month, int year) {
        this.day = day;
        this.month = month;
        this.year = year;
    }

    public int getDay() {
        return day;
    }

    public int getMonth() {
        return month;
    }

    public int getYear() {
        return year;
    }

    public void setDay(int day) {
        this.day = day;
```

```
    }

    public void setMonth(int month) {
        this.month = month;
    }

    public void setYear(int year) {
        this.year = year;
    }

    public void setDate(int day, int month, int year) {
        this.day = day;
        this.month = month;
        this.year = year;
    }

    public String toString() {
        return String.format("%02d/%02d/%04d", day, month, year);
    }
}
    class Test{
    public static void main(String[] args) {
        Date date = new Date(22, 4, 2023);
        System.out.println(date); // Output: 22/04/2023
    }
}
```


Command Prompt
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>javac Date.java
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>java Test
22/04/2023
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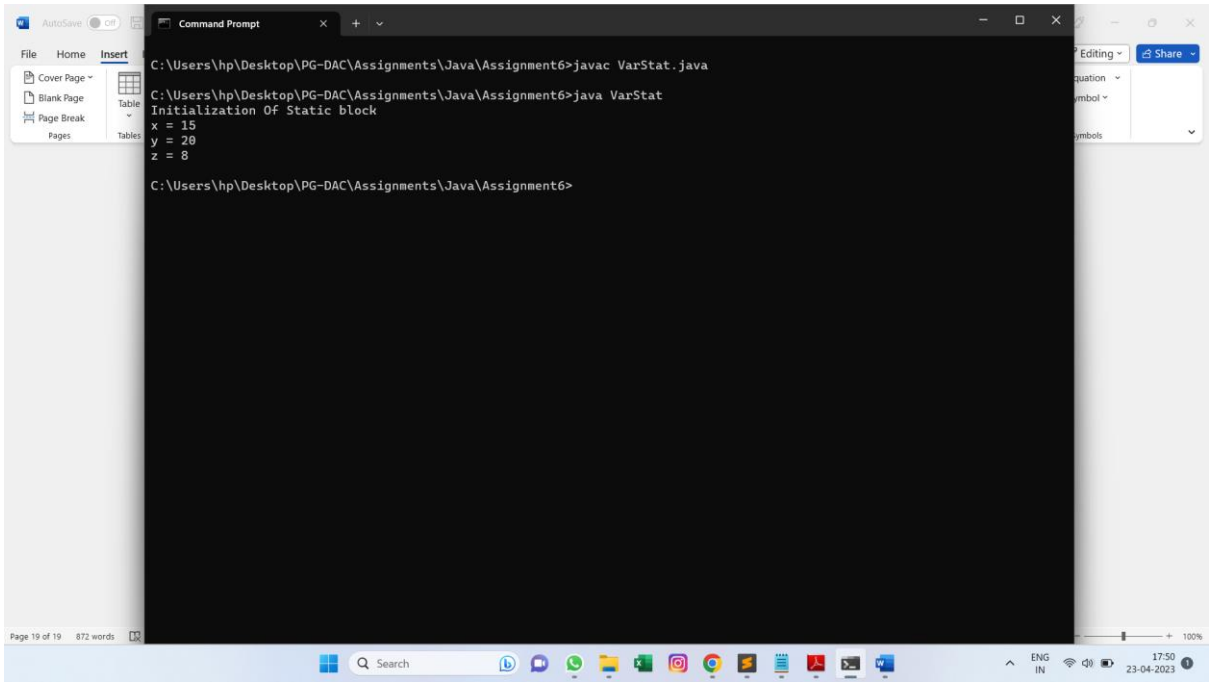
22-04-2023

Q7:

```
public class VarStat {
	static int x = 15;
	static int y;
	static void func(int z){
		System.out.println("x = " + x);
		System.out.println("y = " + y);
		System.out.println("z = " + z);
	}
	static {
		System.out.println("Initialization Of Static block");
		y = x + 5;
	}
	public static void main(String[] args) {
		func(8);
	}
}
```


Command Prompt
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>javac VarStat.java
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>java VarStat
Initialization Of Static block
x = 15
y = 20
z = 8
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>
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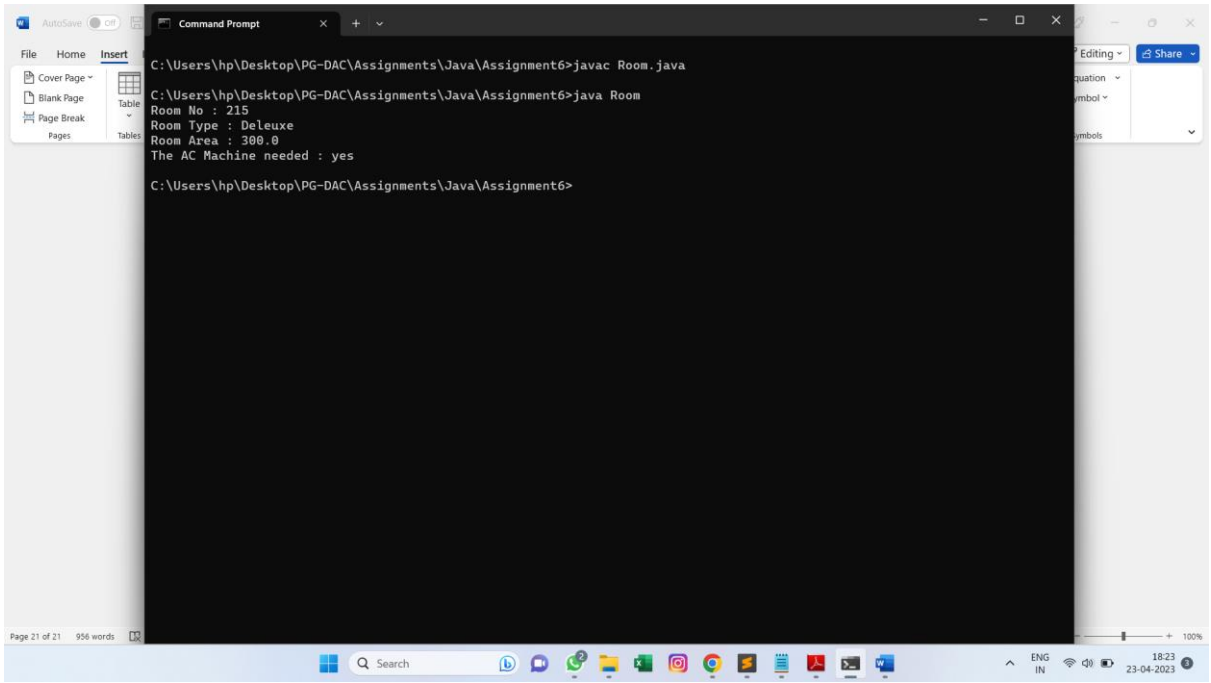
23-04-2023

Q8:

```
public class Room{
	int roomNo;
	String roomType;
	double roomArea;
	boolean acMachine;
	public void setData(int roomNo, String roomType, double roomArea,
boolean acMachine){
	this.roomNo = roomNo;
	this.roomType = roomType;
	this.roomArea = roomArea;
	this.acMachine = acMachine;
	}
	public void   displayData(){
		System.out.println("Room No : "+roomNo);
		System.out.println("Room Type : "+roomType);
		System.out.println("Room Area : "+roomArea);
		String s = (acMachine) ? "yes" : "no";
		System.out.println("The AC Machine needed : " +s);
	}
	public static void main(String[] args) {
		Room r1 = new Room();
		r1.setData(215, "Deleuxe", 300.0, true);
		r1.displayData();
	}
}
```


Command Prompt
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>javac Room.java
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>java Room
Room No : 215
Room Type : Deleuxe
Room Area : 300.0
The AC Machine needed : yes
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>
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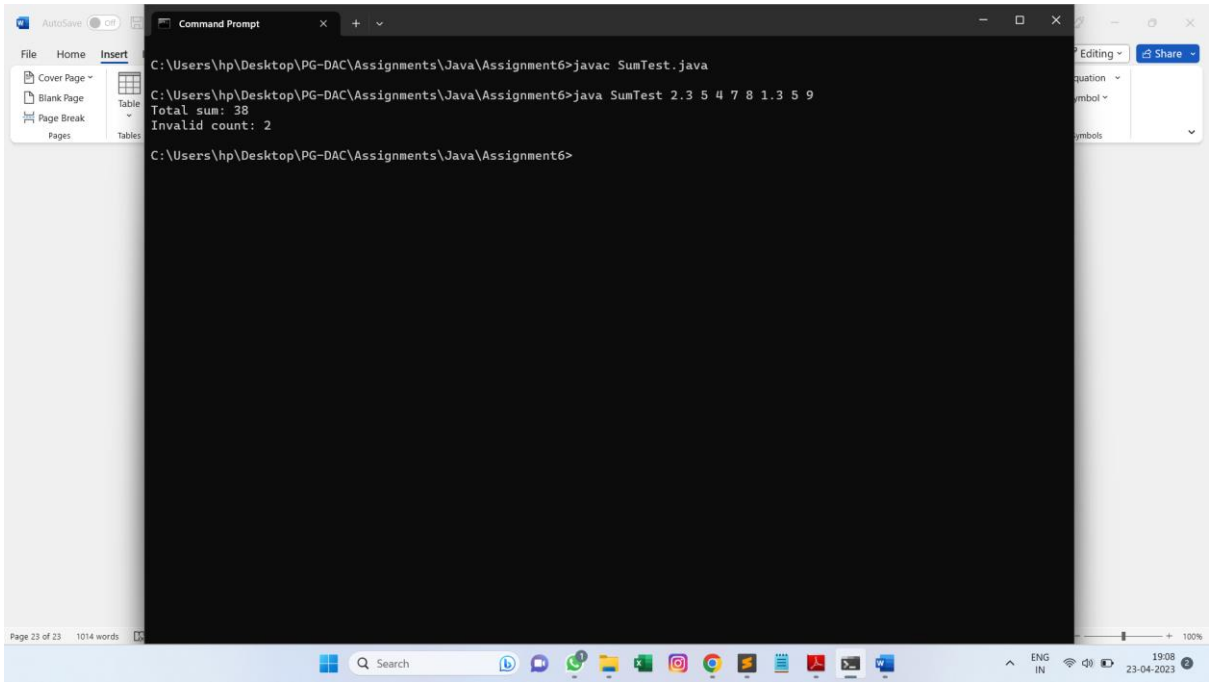
23-04-2023

Q9:

```
public class SumTest {


    public static void main(String[] args) {
        int totalSum = 0;
        int invalidCount = 0;
        for (int i = 0; i < args.length; i++) {
            try {
                int argInt = Integer.parseInt(args[i]);
                totalSum += argInt;
            } catch (Exception e) {
                invalidCount++;
            }
        }
        System.out.println("Total sum: " + totalSum);
        System.out.println("Invalid count: " + invalidCount);
    }
}
```


Command Prompt
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>javac SumTest.java
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>java SumTest 2.3 5 4 7 8 1.3 5 9
Total sum: 38
Invalid count: 2
C:\Users\hp\Desktop\PG-DAC\Assignments\Java\Assignment6>
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