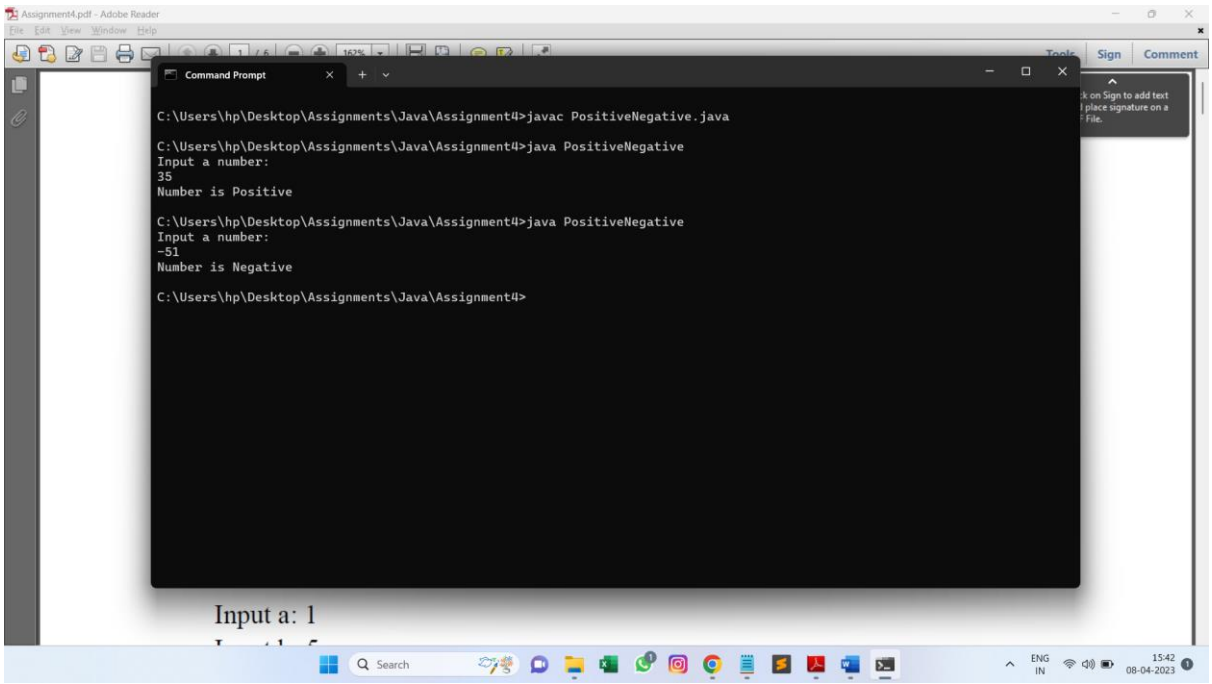
230350320047_Amruta Khandare_OOPS4

Q1:

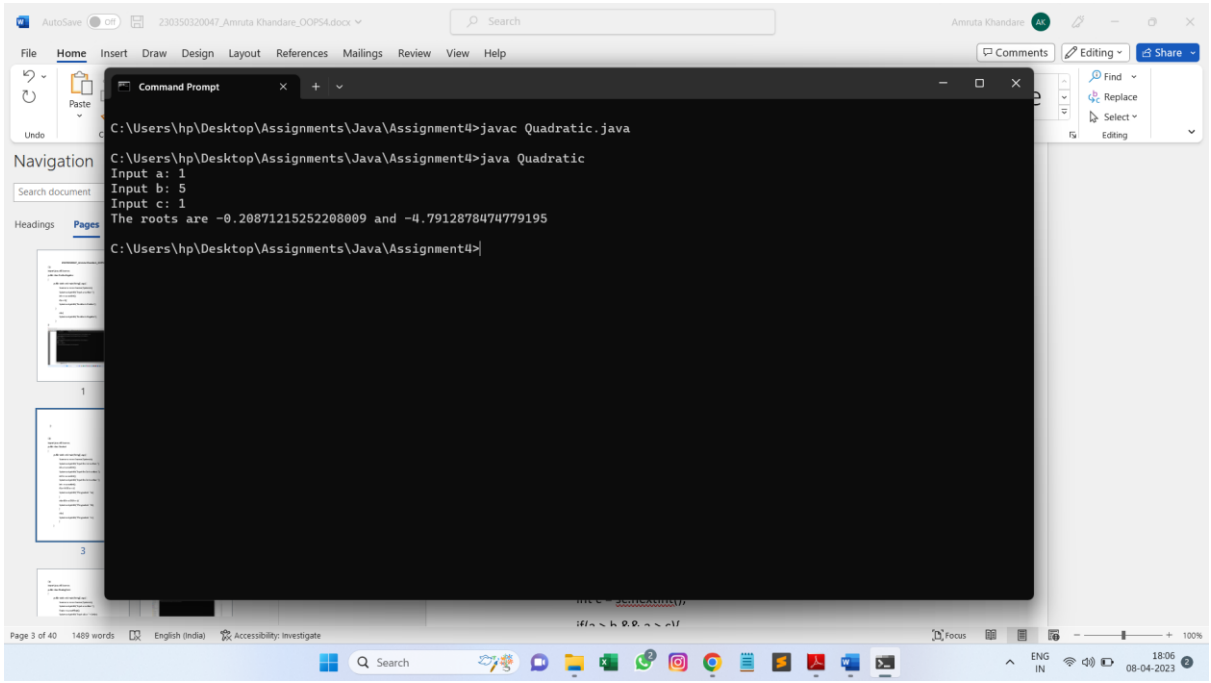
```
import java.util.Scanner;
public class PositiveNegative
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Input a number: ");
		int n = sc.nextInt();
		if(n > 0){
		System.out.println("Number is Positive");
	}
		else{
		System.out.println("Number is Negative");
	}
}}
```



Q2:

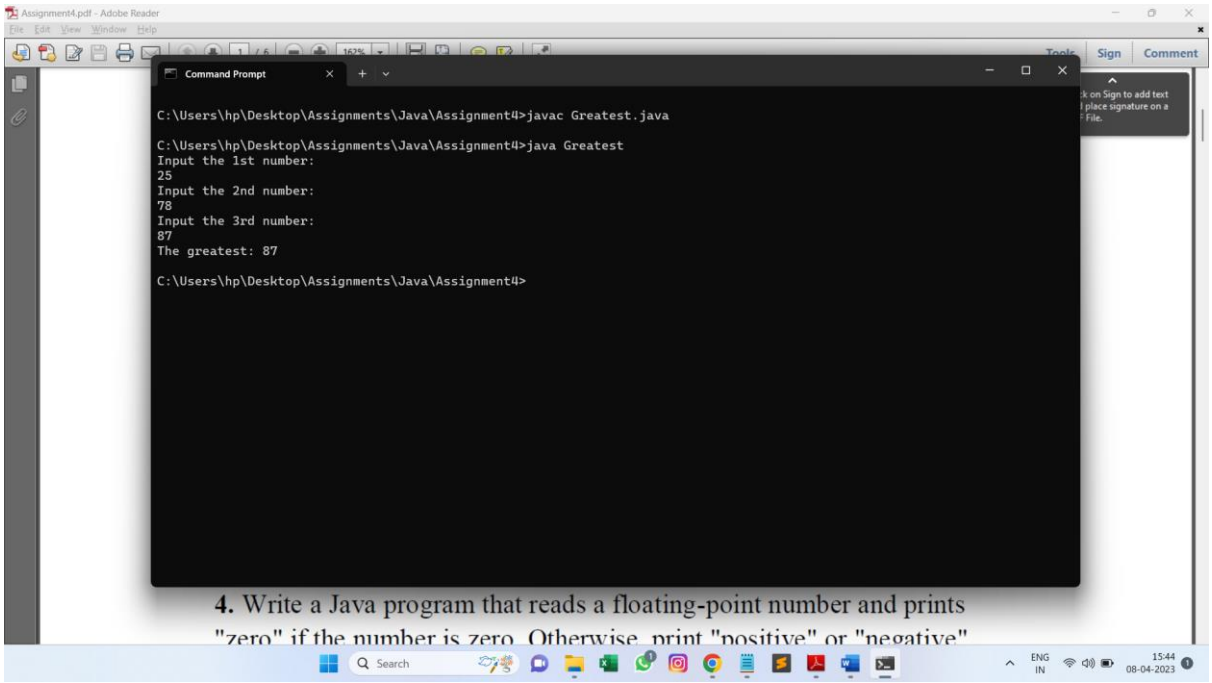
```
import java.util.Scanner;
public class Quadratic
{
  public static void main(String[] Strings) {
       Scanner sc = new Scanner(System.in);
                  System.out.print("Input a: ");
          double a = sc.nextDouble();
          System.out.print("Input b: ");
          double b = sc.nextDouble();
          System.out.print("Input c: ");
          double c = sc.nextDouble();
          double result = b * b - 4.0 * a * c;
          if (result > 0.0) {
             double r1 = (-b + Math.pow(result, 0.5)) / (2.0 * a);
             double r2 = (-b - Math.pow(result, 0.5)) / (2.0 * a);
             System.out.println("The roots are " + r1 + " and " + r2);
          }
          else if (result == 0.0) {
             double r1 = -b / (2.0 * a);
             System.out.println("The root is " + r1);
          }
 else {
             System.out.println("The equation has no real roots.");
          }
```

}}


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac Quadratic.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java Quadratic
Input a: 1
Input b: 5
Input c: 1
The roots are -0.20871215252208009 and -4.7912878474779195
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

Q3:

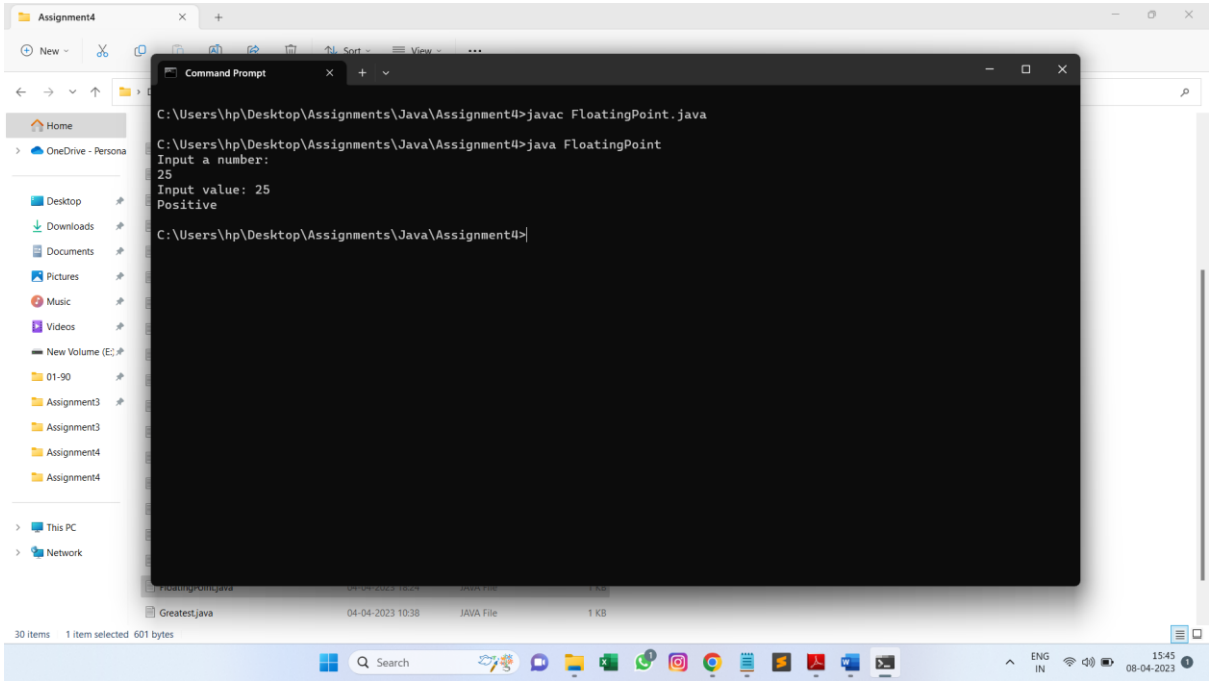
```
import java.util.Scanner;
public class Greatest
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Input the 1st number: ");
		int a = sc.nextInt();
		System.out.println("Input the 2nd number: ");
		int b = sc.nextInt();
		System.out.println("Input the 3rd number: ");
		int c = sc.nextInt();
		if(a > b && a > c){
		System.out.println("The greatest: "+a);
		}
		else if(b > a && b > c){
		System.out.println("The greatest: "+b);
		}
		else{
		System.out.println("The greatest: "+c);
		}
	}
}
```


Assignment4.pdf - Adobe Reader
File Edit View Window Help
Tools
Sign
Comment
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac Greatest.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java Greatest
Input the 1st number:
25
Input the 2nd number:
78
Input the 3rd number:
87
The greatest: 87
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
4. Write a Java program that reads a floating-point number and prints
"zero" if the number is zero. Otherwise, print "positive" or "negative"
Search
ENG
IN
15:44
08-04-2023

Q4:

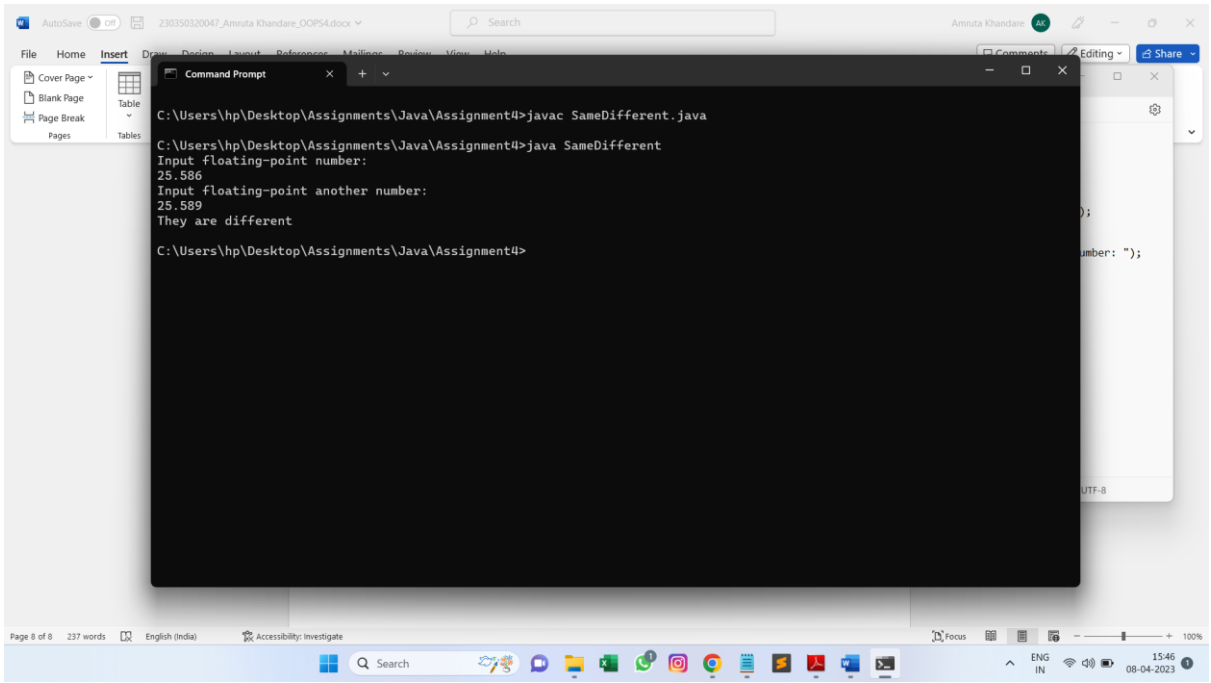
```
import java.util.Scanner;
public class FloatingPoint
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Input a number: ");
		float n = sc.nextFloat();
		System.out.println("Input value: " + (int)n);
		float abs = n;
		if(n == 0){
		System.out.println("Zero");
		}
		else if(n > 0){
		System.out.println("Positive");
	}
		else{
		System.out.println("Negative");
	}
	if(n < 0)
	abs = -1*n;
	if(n < 1){
		System.out.println("Small");
	}
	if(n > 1000000){
		System.out.println("large");
```

```
        }
}}
```


Assignment4
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac FloatingPoint.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java FloatingPoint
Input a number:
25
Input value: 25
Positive
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
Home
OneDrive - Persona
Desktop
Downloads
Documents
Pictures
Music
Videos
New Volume (E:)
01-90
Assignment3
Assignment3
Assignment4
Assignment4
This PC
Network
Greatest.java
04-04-2023 10:38
JAVA File
1 KB
30 items
1 item selected 601 bytes
Search
ENG
IN
15:45
08-04-2023

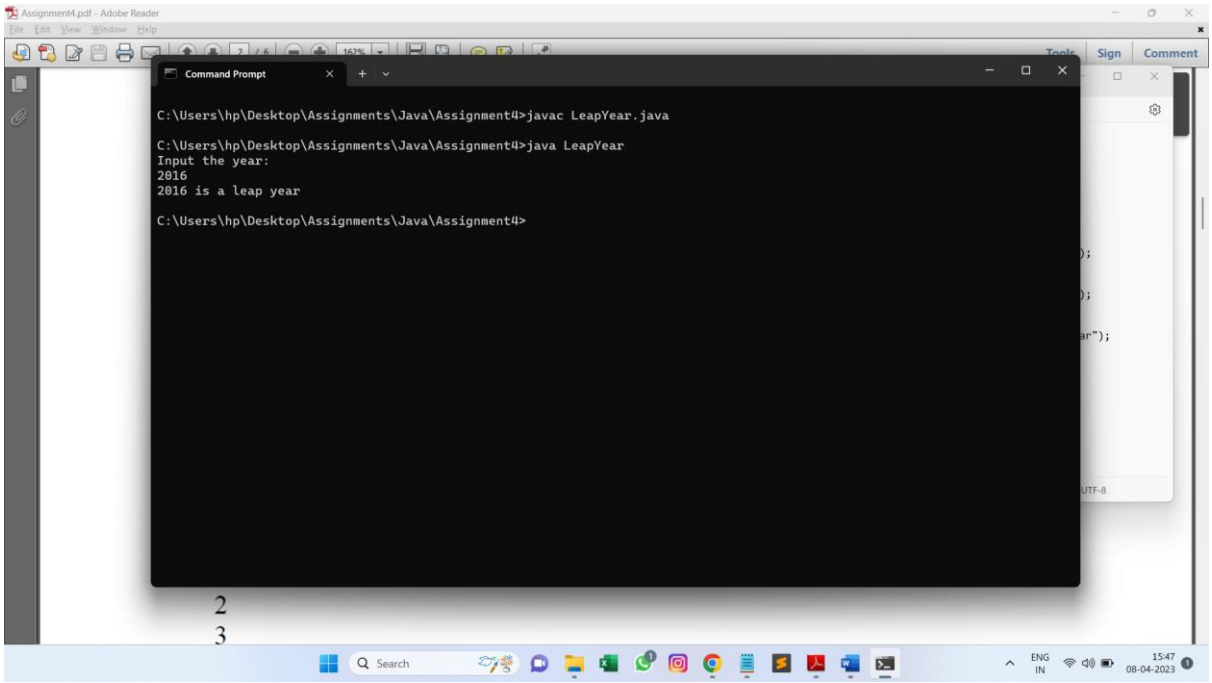
Q5:

```
import java.util.Scanner;
public class FloatingSame
{
        public static void main(String[] args) {
   Scanner sc = new Scanner(System.in);
   System.out.println("Input floating-point number: ");
   float a = sc.nextFloat();
   a = Math.round(a*1000.0)/1000.0f;
   System.out.println("Input floating-point another number: ");
   float b = sc.nextFloat();
   b = Math.round(b*1000.0)/1000.0f;
   if(a == b){
    System.out.println("They are same");
   }
   else{
    System.out.println("They are different");
}
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac SameDifferent.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java SameDifferent
Input floating-point number:
25.586
Input floating-point another number:
25.589
They are different
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

Q6:

```
import java.util.Scanner;
public class LeapYear
{
	public static void main(String[] args) {
		System.out.println("Input the year:");
		Scanner sc = new Scanner(System.in);
		int y = sc.nextInt();
		if(y % 100 != 0 && y % 4 == 0){
		   System.out.println(y+" is a leap year");
		}
		else if(y % 100 == 0 && y % 400 == 0){
		   System.out.println(y+" is a leap year");
		}
		else{
		  System.out.println(y+" is not a leap year");
		}
	}
}
```

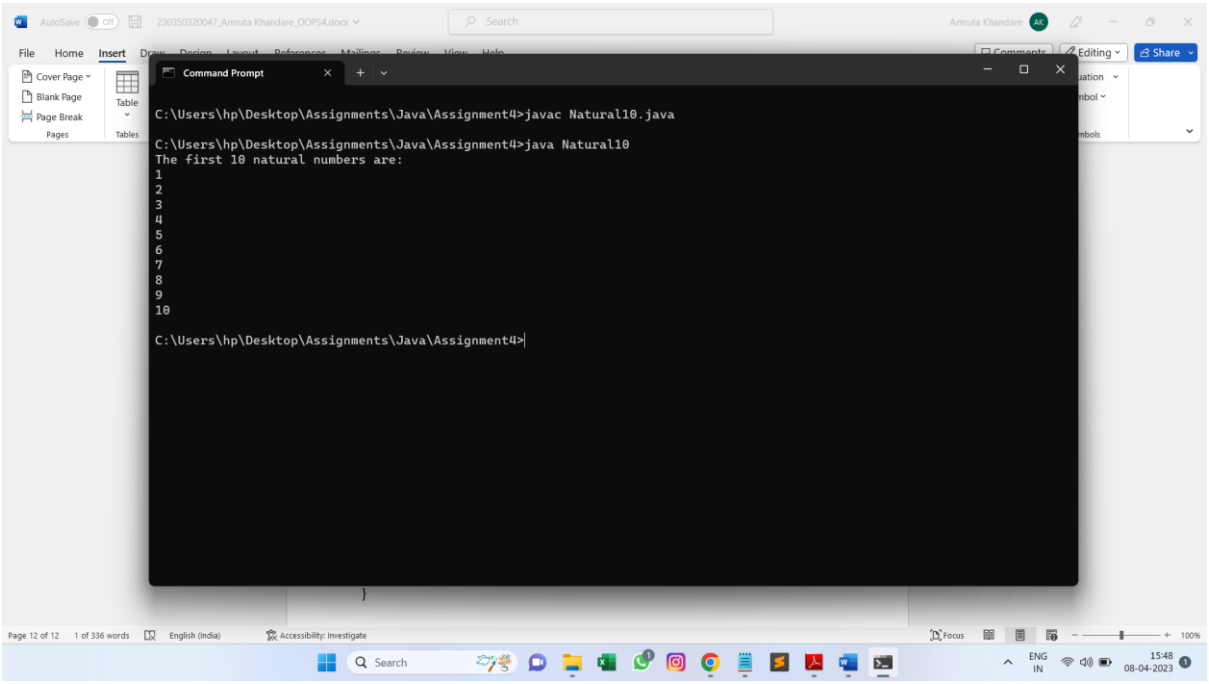

Assignment4.pdf - Adobe Reader
File Edit View Window Help
Tools
Sign
Comment
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac LeapYear.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java LeapYear
Input the year:
2016
2016 is a leap year
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
UTF-8
Search
ENG
IN
15:47
08-04-2023

2

3

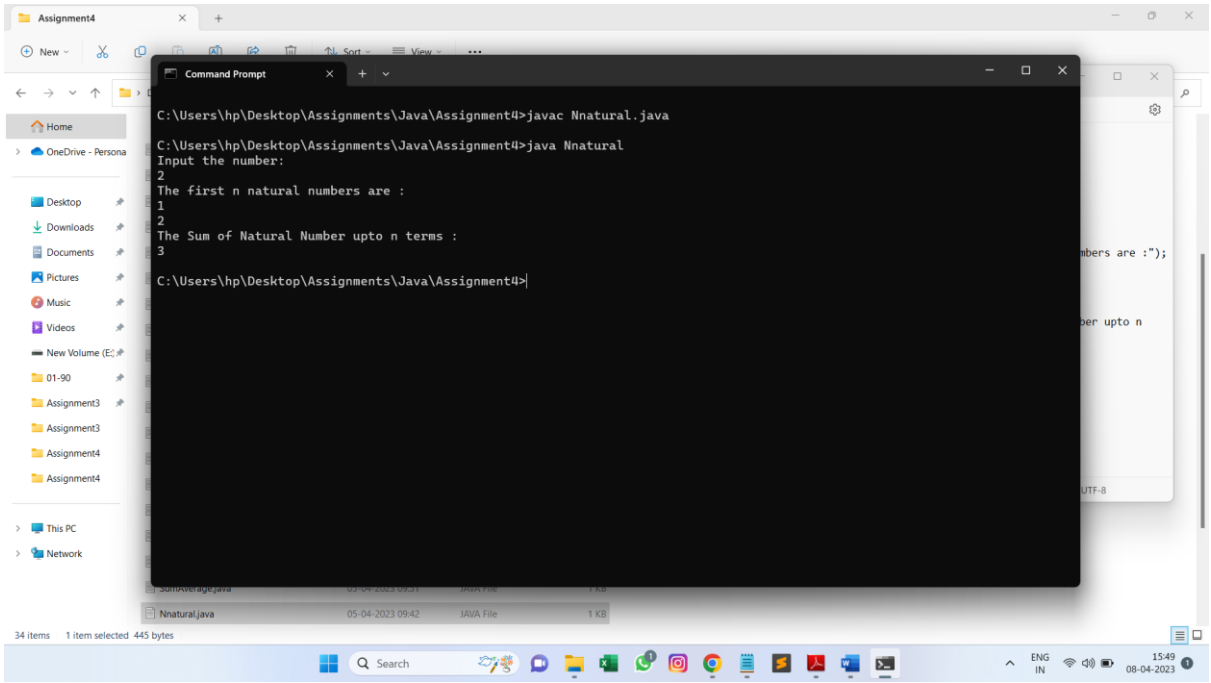
Q7:

```
public class Natural10
{
	public static void main(String[] args) {
		System.out.println("The first 10 natural numbers are:");
		int n = 10;
		for(int i = 1;i<=10;i++){
		   System.out.println(i);
		}
	}
}
```



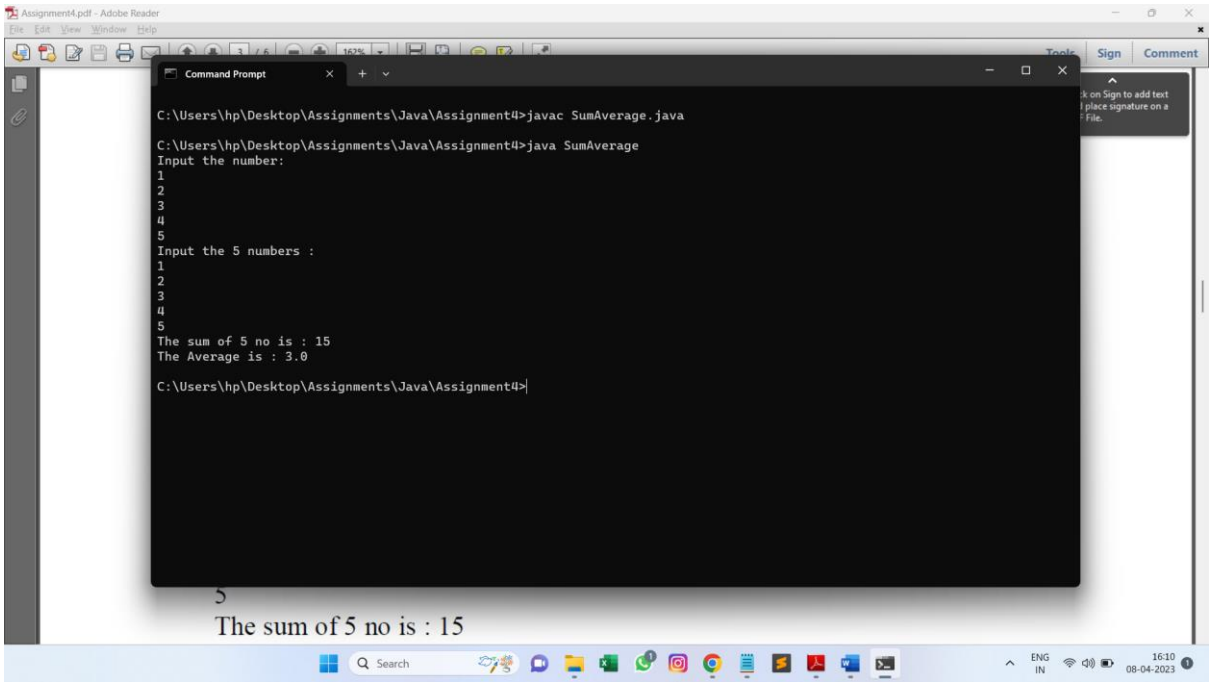
Q8:

```
import java.util.Scanner;
public class Nnatural
{
	public static void main(String[] args) {
		System.out.println("Input the number: ");
		Scanner sc = new Scanner(System.in);
		int n = sc.nextInt();
		int sum = 0;
		System.out.println("The first n natural numbers are :");
		for(int i = 1;i<=n;i++){
		   sum = sum + i;
		   System.out.println(i);
		}
	System.out.println("The Sum of Natural Number upto n terms :\n"+sum);
	}
}
```


Assignment4
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac Nnatural.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java Nnatural
Input the number:
2
The first n natural numbers are :
1
2
The Sum of Natural Number upto n terms :
3
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
Nnatural.java
05-04-2023 09:42
JAVA File
1 KB
34 items
1 item selected 445 bytes
Search
ENG
IN
15:49
08-04-2023

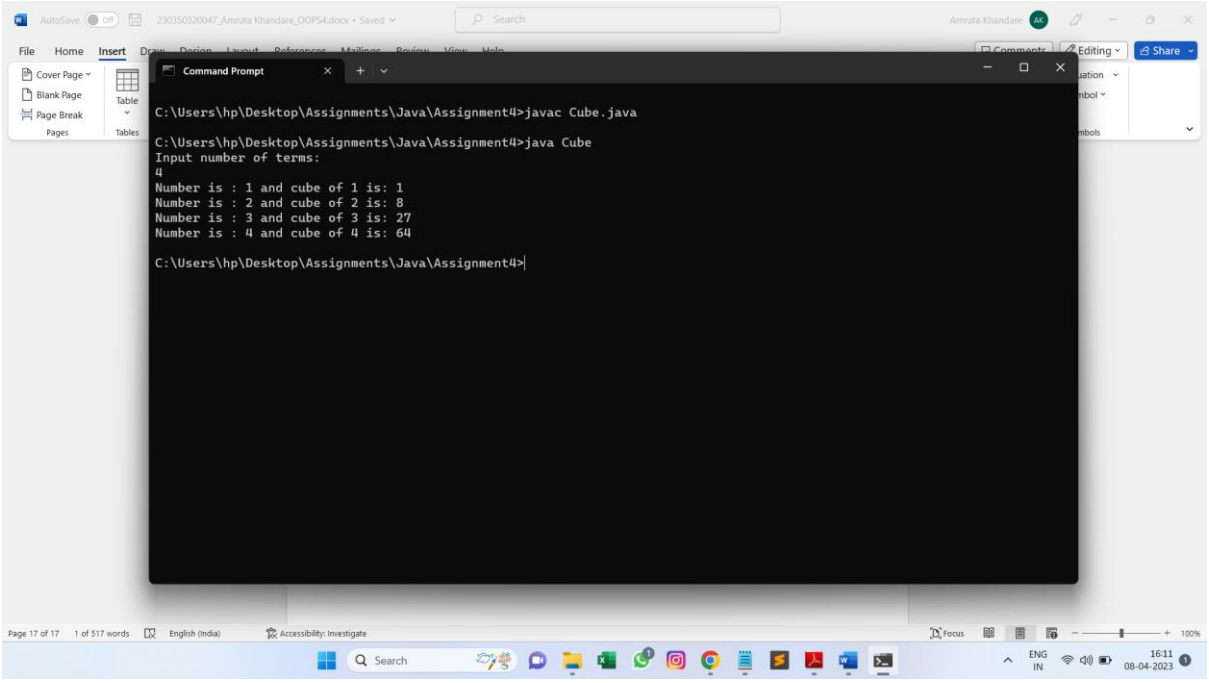
Q9:

```
import java.util.Scanner;
public class SumAverage
{
	public static void main(String[] args) {
		System.out.println("Input the number: ");
		Scanner sc = new Scanner(System.in);
		int a = sc.nextInt();
		int b = sc.nextInt();
		int c = sc.nextInt();
		int d = sc.nextInt();
		int e = sc.nextInt();
		int sum = 0;
		float avg;
		System.out.println("Input the 5 numbers
:"+"\n"+a+"\n"+b+"\n"+c+"\n"+d+"\n"+e);
		   sum = sum + a+b+c+d+e;
		System.out.println("The sum of 5 no is : "+sum);
		System.out.println("The Average is : "+sum/5f);
	}
}
```


Assignment4.pdf - Adobe Reader
File Edit View Window Help
Tools
Sign
Comment
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac SumAverage.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java SumAverage
Input the number:
1
2
3
4
5
Input the 5 numbers :
1
2
3
4
5
The sum of 5 no is : 15
The Average is : 3.0
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
5
The sum of 5 no is : 15
Search
ENG
IN
16:10
08-04-2023

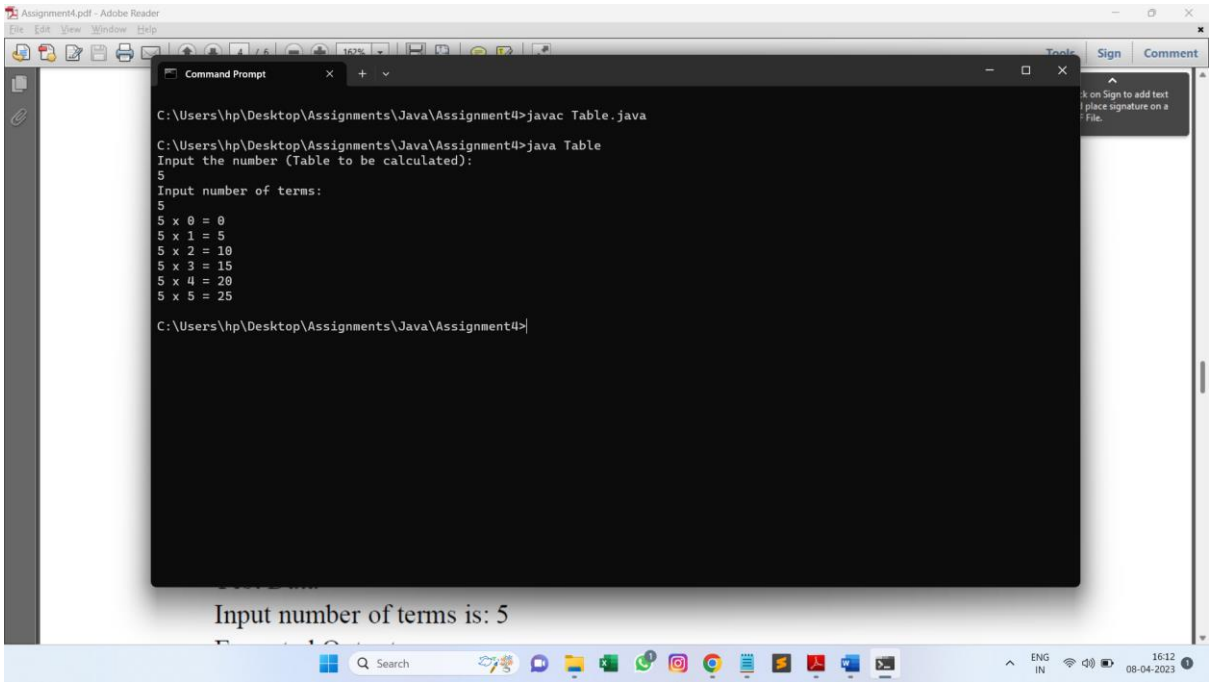
Q10:

```
import java.util.Scanner;
public class Cube
{
	public static void main(String[] args) {
		System.out.println("Input number of terms: ");
		Scanner sc = new Scanner(System.in);
		int n = sc.nextInt();
		int cube;
		for(int i = 1;i<=n;i++){
		   cube = i*i*i;
		System.out.println("Number is : "+i+" and cube of "+i+" is: "+cube);
		}
	}
}
```



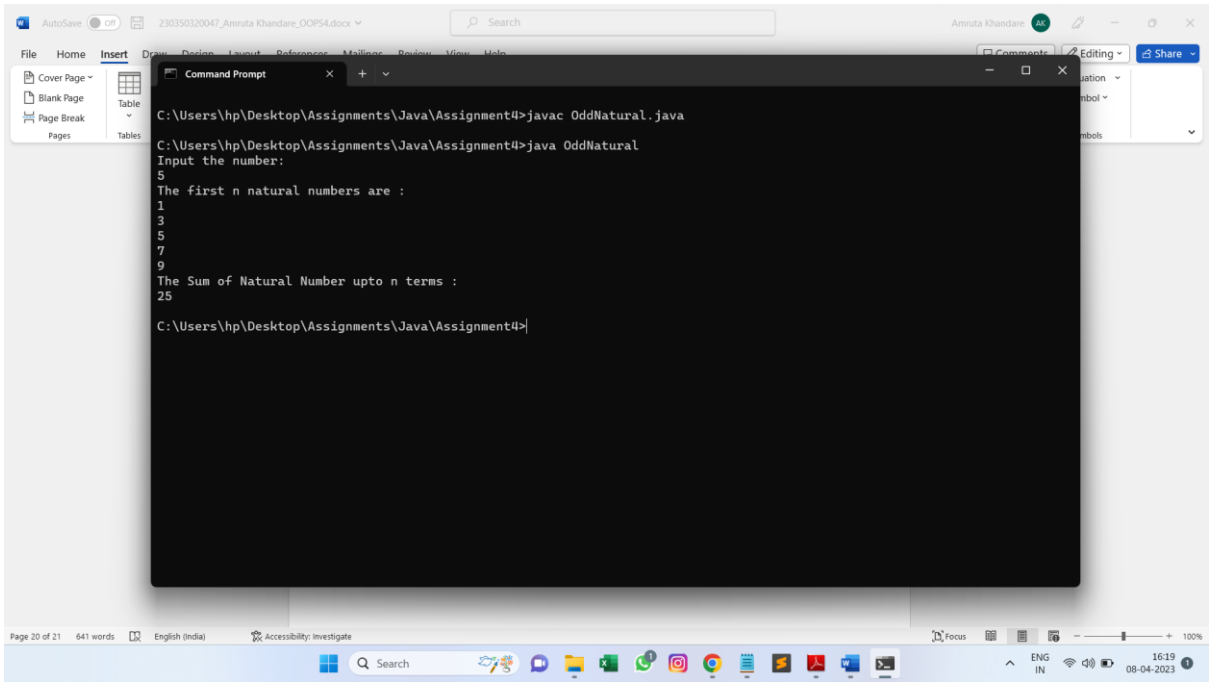
Q11:

```
import java.util.Scanner;
public class Table
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Input the number (Table to be calculated): ");
		int n = sc.nextInt();
		System.out.println("Input number of terms: ");
		int t = sc.nextInt();
		int table;
		for(int i = 0;i<=t;i++){
		   table = t * i;
		System.out.println(t+" x "+i+" = "+table);
		}
	}
}
```


Assignment4.pdf - Adobe Reader
File Edit View Window Help
Tools
Sign
Comment
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac Table.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java Table
Input the number (Table to be calculated):
5
Input number of terms:
5
5 x 0 = 0
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
Input number of terms is: 5
Search
ENG
IN
16:12
08-04-2023

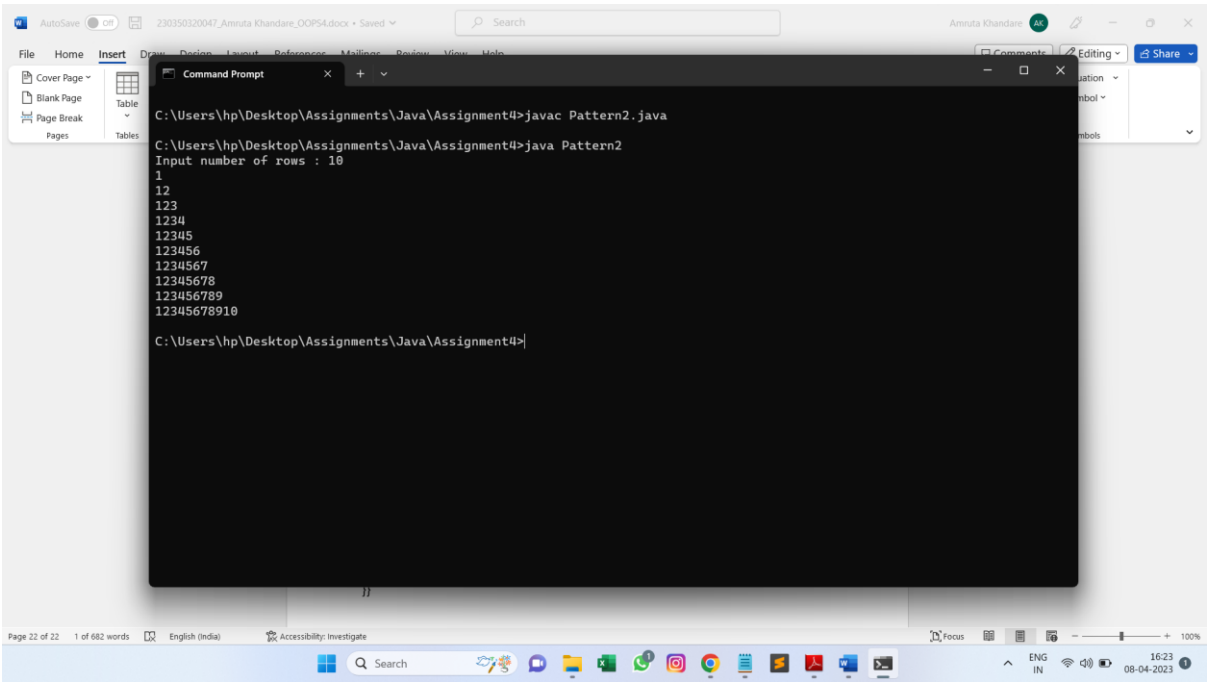
Q12:

```
import java.util.Scanner;
public class OddNatural
{
	public static void main(String[] args) {
		System.out.println("Input the number: ");
		Scanner sc = new Scanner(System.in);
		int n = sc.nextInt();
		int sum = 0;
		System.out.println("The first n natural numbers are :");
		for(int i = 1;i<=2*n;i++){
		if(i % 2 != 0){
		   sum = sum + i;
		   System.out.println(i);
		}
}
		System.out.println("The Sum of Natural Number upto n terms
:\n"+sum);
	}
}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac OddNatural.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java OddNatural
Input the number:
5
The first n natural numbers are :
1
3
5
7
9
The Sum of Natural Number upto n terms :
25
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

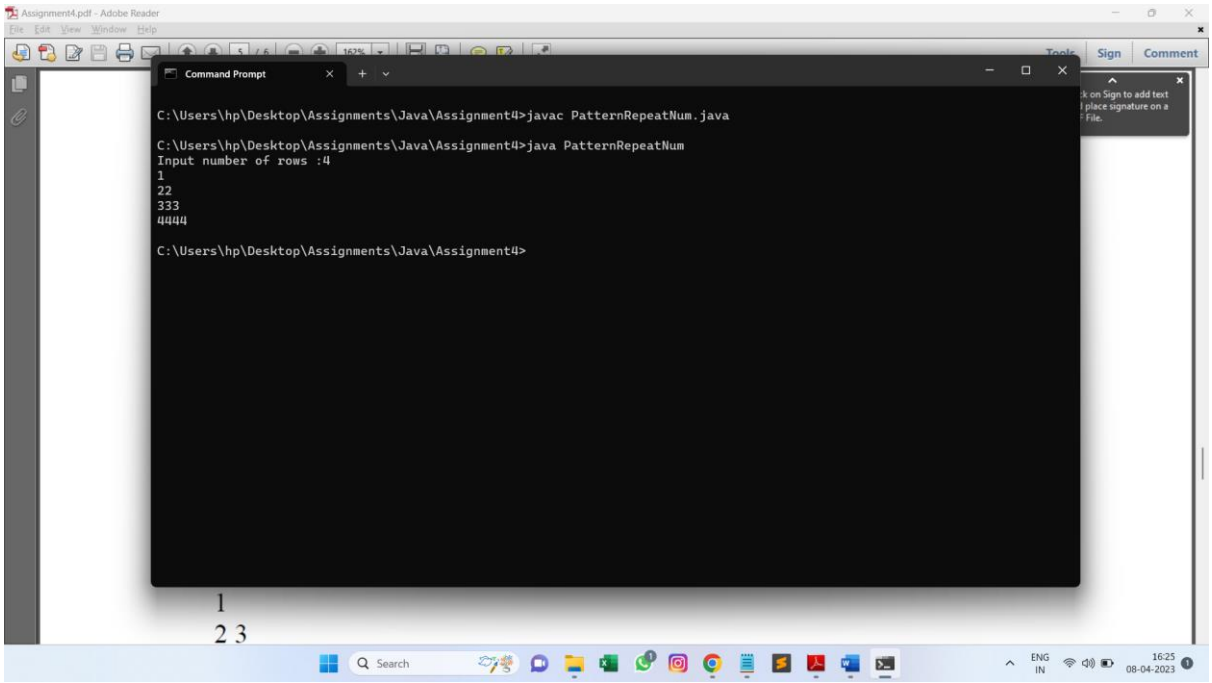
Q13:

```
import java.util.Scanner;

public class Pattern2

{

        public static void main(String[] args){

           Scanner sc = new Scanner(System.in);

                System.out.print("Input number of rows : ");

                int n = sc.nextInt();

                for(int i = 1;i<=n;i++){

                   for(int j = 1;j <= i;j++){

                   System.out.print(j);

                }

                   System.out.println();

        }

}}
```



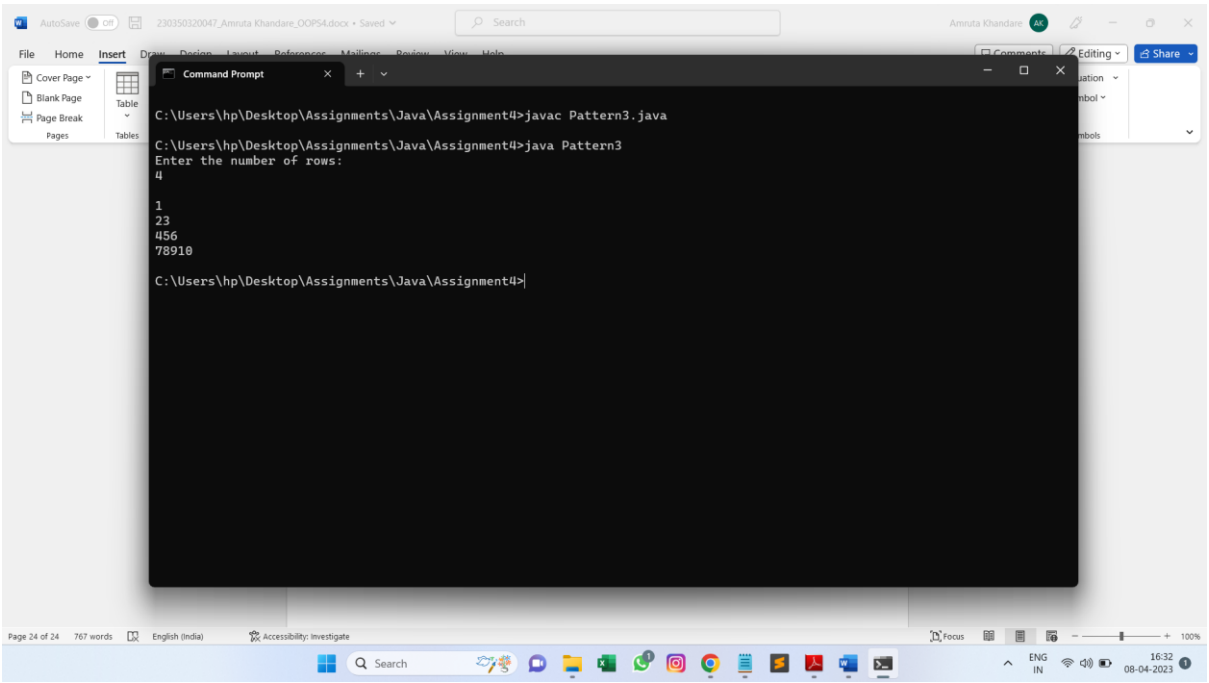
Q14:

```
import java.util.Scanner;
public class PatternRepeatNum
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                   System.out.print("Input number of rows :");
                int n = sc.nextInt();
                for(int i = 1;i<=n;i++){
                   for(int j = 1;j <= i;j++){
                   System.out.print(i);
                   }
                   System.out.println();
        }
}}
```



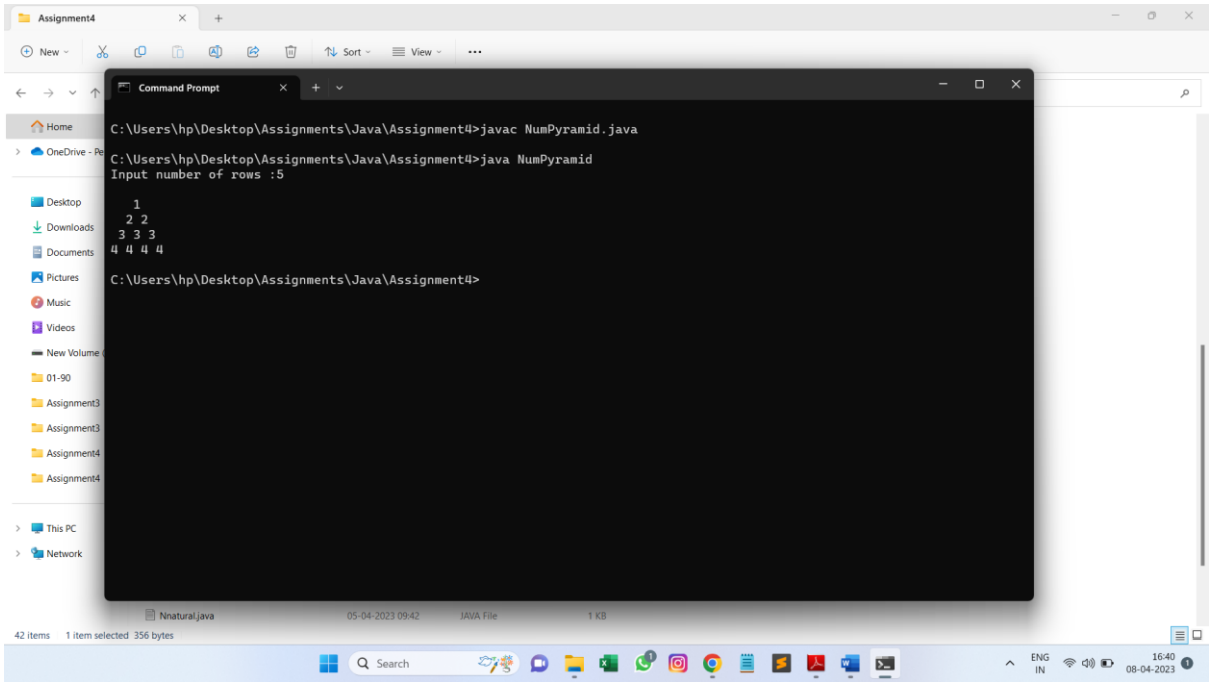
Q15:

```
import java.util.Scanner;

public class Pattern3

{

        public static void main(String[] args) {

                Scanner sc = new Scanner(System.in);

                System.out.println("Enter the number of rows: ");

                int n = sc.nextInt();

                int k = 1;

                for(int i = 0;i<=n;i++){

                   for(int j = 0;j<i;j++)

                      System.out.print(k++);

                      System.out.println();

        }

}}
```



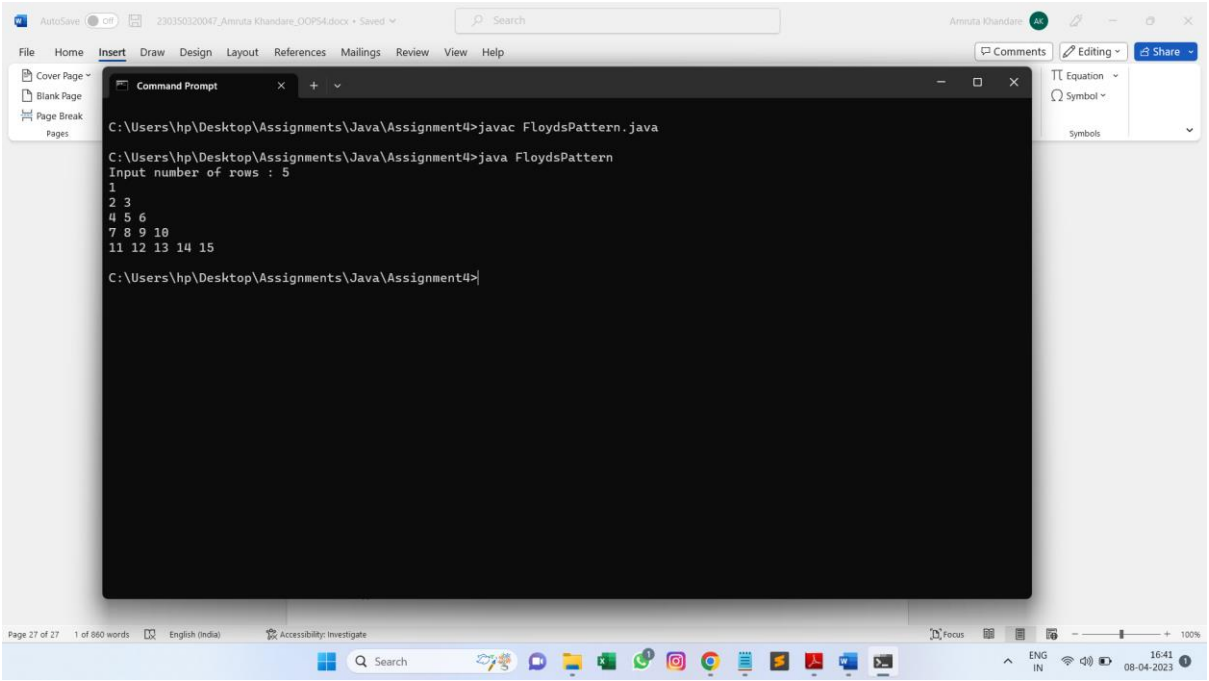
Q16:

```
import java.util.Scanner;
public class NumPyramid
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		int n = sc.nextInt();
		for(int i = 0;i<n;i++){
		   for(int j = n-i;j>1;j--){
			System.out.print(" ");
		}
			for(int j = 1;j<=i;j++){
			System.out.print(i+" ");
		}
			System.out.println();
	}
}}
```


Assignment4
New
Sort
View
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac NumPyramid.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java NumPyramid
Input number of rows :5
1
2 2
3 3 3
4 4 4 4
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
Home
OneDrive - Pe
Desktop
Downloads
Documents
Pictures
Music
Videos
New Volume
01-90
Assignment3
Assignment3
Assignment4
Assignment4
This PC
Network
Nnatural.java
05-04-2023 09:42
JAVA File
1 KB
42 items
1 item selected 356 bytes
Search
ENG
IN
16:40
08-04-2023

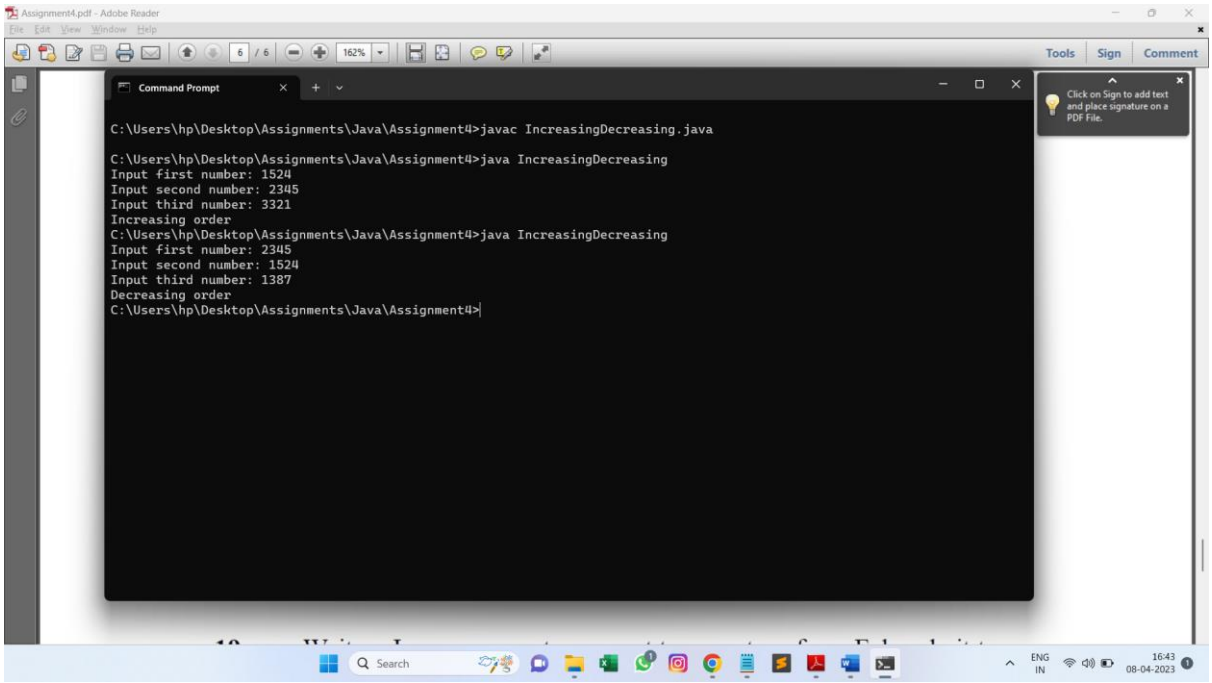
Q17:

```
import java.util.Scanner;
public class FloydsPattern
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                System.out.print("Input number of rows : ");
                int n = sc.nextInt();
                int k = 1;
                for(int i = 1;i<=n;i++){
                   for(int j = 1;j <= i;j++){
                   System.out.print(k++ + " ");
                }
                   System.out.println();
        }
}}
```



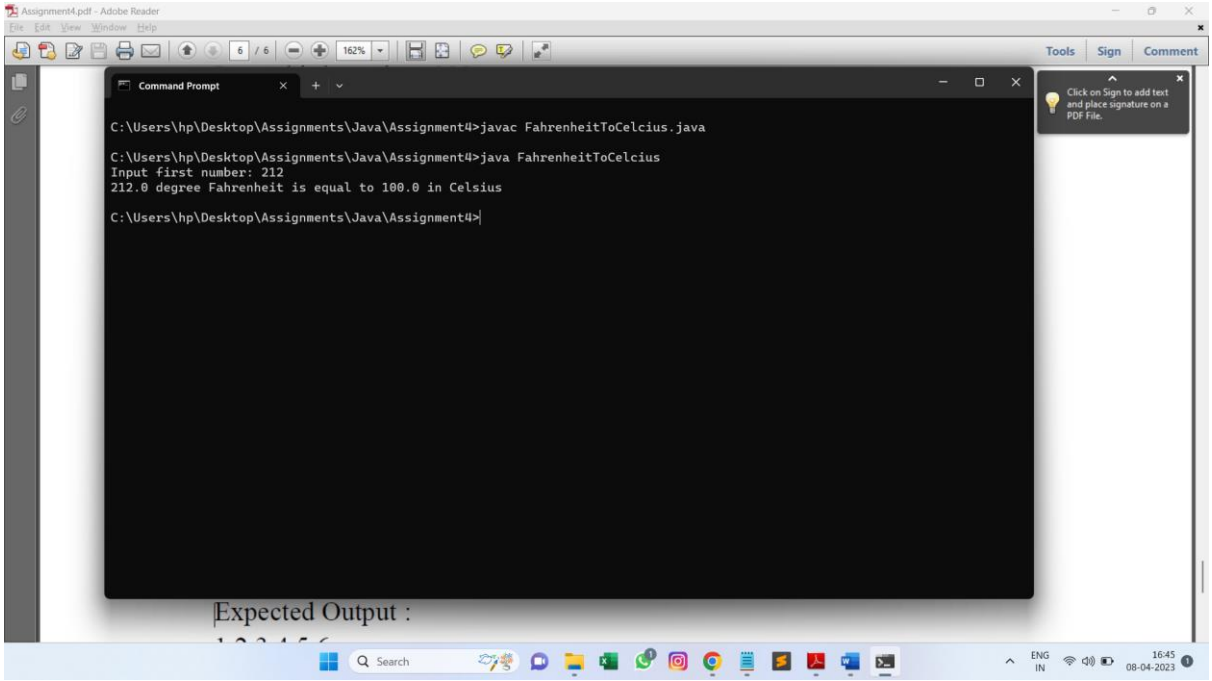
Q18:

```
import java.util.Scanner;
public class IncreasingDecreasing
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                System.out.print("Input first number: ");
                int a = sc.nextInt();
                System.out.print("Input second number: ");
                int b = sc.nextInt();
                System.out.print("Input third number: ");
                int c = sc.nextInt();
                if(a < b && b < c){
                   System.out.print("Increasing order");
                }
                else if(a > b && b > c){
                   System.out.print("Decreasing order");
                }
                else{
                     System.out.print("Neither increasing or decreasing order");
                }
}}
```


Assignment4.pdf - Adobe Reader
Tools
Sign
Comment
Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac IncreasingDecreasing.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java IncreasingDecreasing
Input first number: 1524
Input second number: 2345
Input third number: 3321
Increasing order
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java IncreasingDecreasing
Input first number: 2345
Input second number: 1524
Input third number: 1387
Decreasing order
C:\Users\hp\Desktop\Assignments\Java\Assignment4>
Click on Sign to add text and place signature on a PDF File.
Search
ENG
IN
16:43
08-04-2023

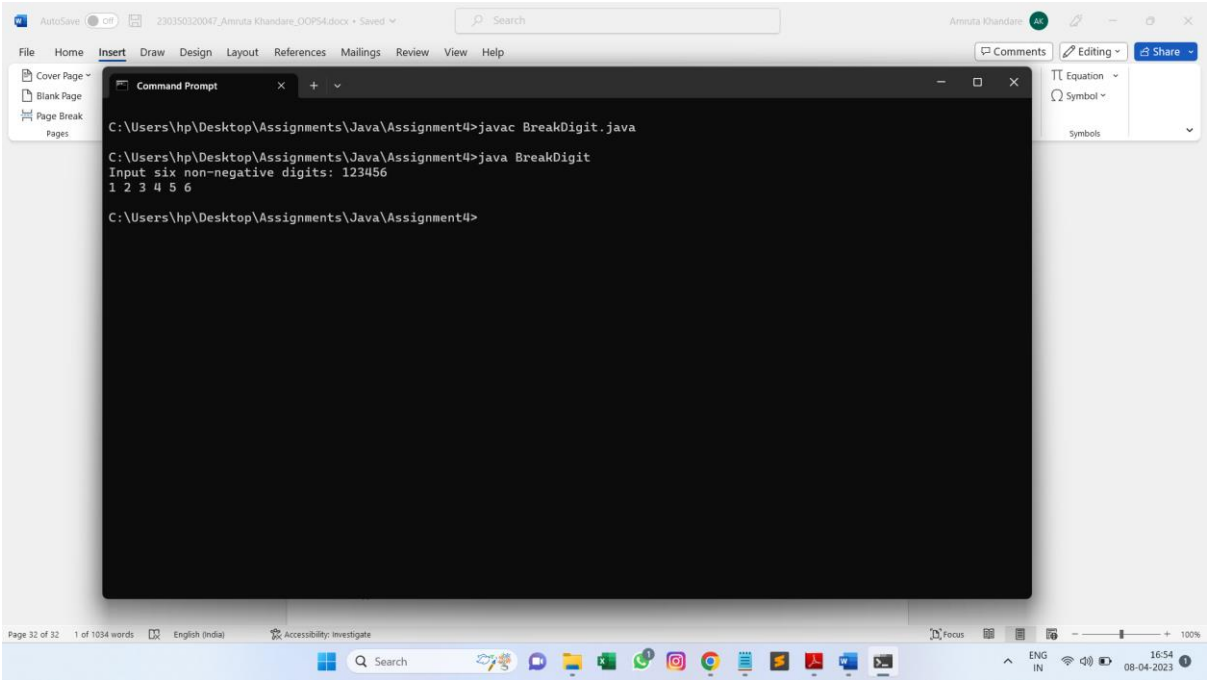
Q19:

```
import java.util.Scanner;

public class FahrenheitToCelcius

{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Input first number: ");

float fahrenheit = sc.nextFloat();

float c = ((fahrenheit-32)*5)/9f;

System.out.println(fahrenheit+" degree Fahrenheit is equal to "+c+" in Celsius");

}}
```



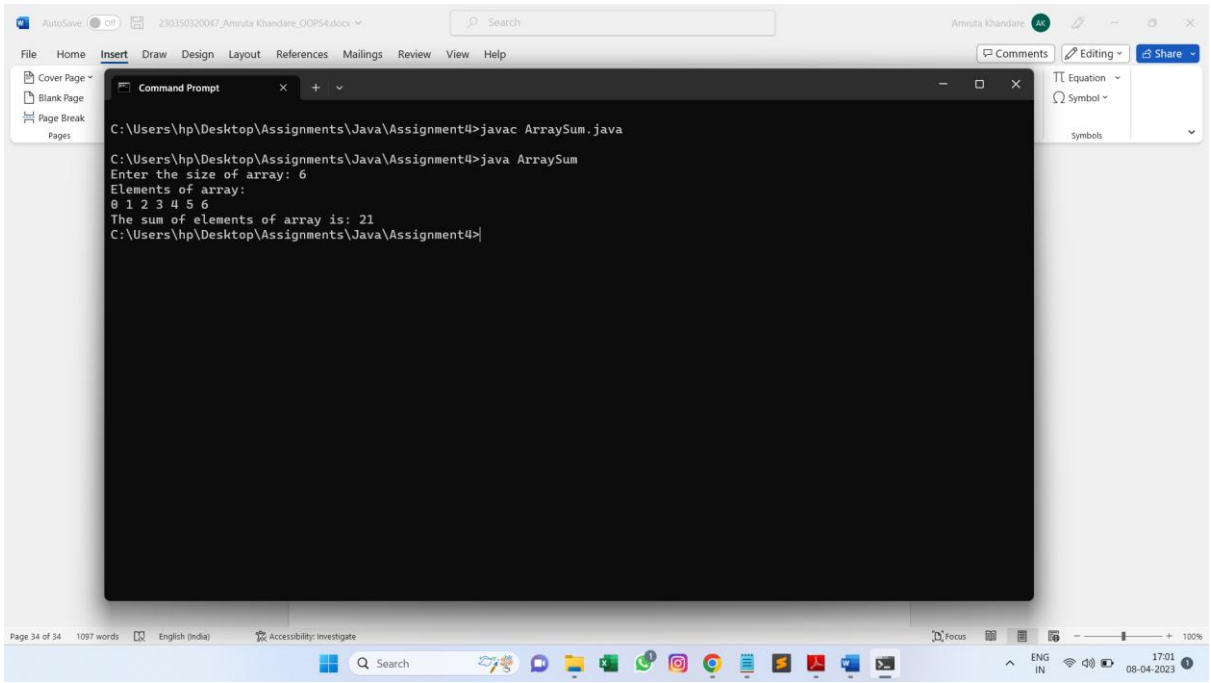
Q20:

```
import java.util.Scanner;
public class BreakDigit
{
        public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        System.out.print("Input six non-negative digits: ");
        int n = sc.nextInt();
    int n1=n/100000%10;
    int n2=n/10000%10;
    int n3=n/1000%10;
    int n4=n/100%10;
    int n5=n/10%10;
    int n6=n%10;
    System.out.println(n1 + " " + n2 + " " + n3 + " " + n4 + " " + n5 + " " + n6);
}}
```



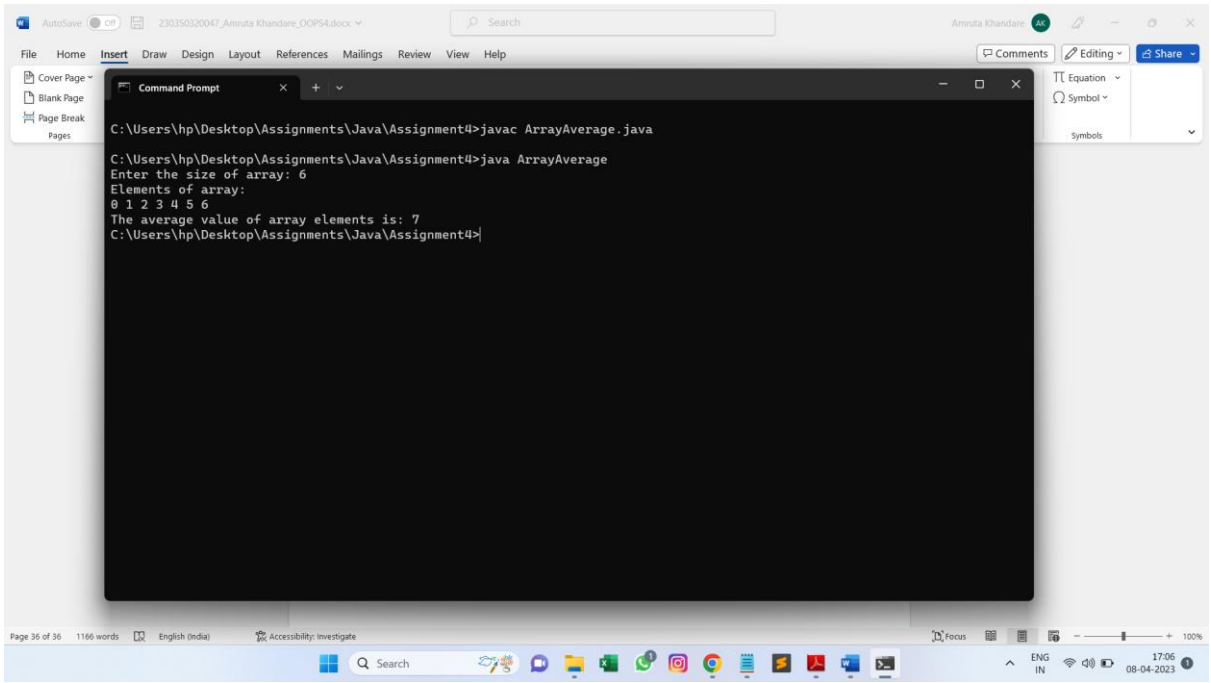
Q21:

```
import java.util.Scanner;
public class ArraySum
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                System.out.print("Enter the size of array: ");
                int n = sc.nextInt();
                int[] a = new int [n];
                int sum = 0;
                System.out.print("Elements of array:\n");
                 for(int i = 0;i <= n;i++){
                sum = sum + i;
                System.out.print(i+" ");
      }
                System.out.print("\nThe sum of elements of array is: "+sum);
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac ArraySum.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java ArraySum
Enter the size of array: 6
Elements of array:
0 1 2 3 4 5 6
The sum of elements of array is: 21
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

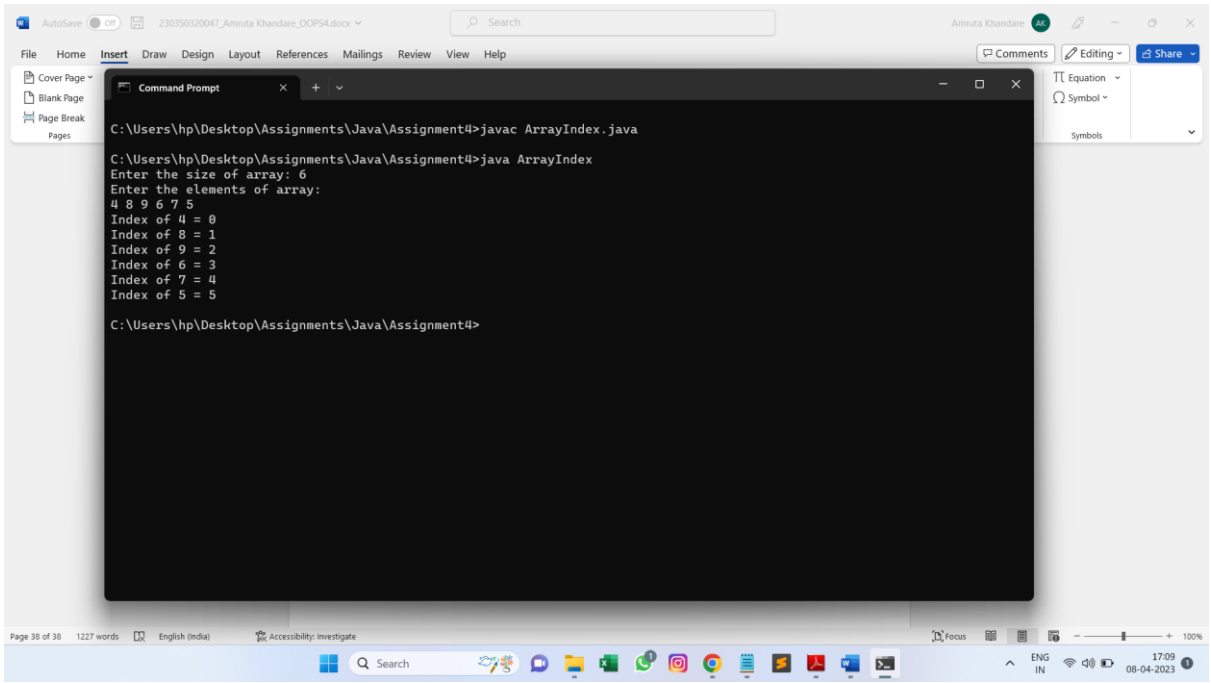
Q22:

```
import java.util.Scanner;
public class ArrayAverage
{
public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the size of array: ");
        int n = sc.nextInt();
        int[] a = new int [n];
        int sum = 0, average = 1;
        System.out.print("Elements of array:\n");
        for(int i = 0;i <= n;i++){
        sum = sum + i;
        System.out.print(i+" ");
    }
    average = sum/3;
        System.out.print("\nThe average value of array elements is: "+average);
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac ArrayAverage.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java ArrayAverage
Enter the size of array: 6
Elements of array:
0 1 2 3 4 5 6
The average value of array elements is: 7
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

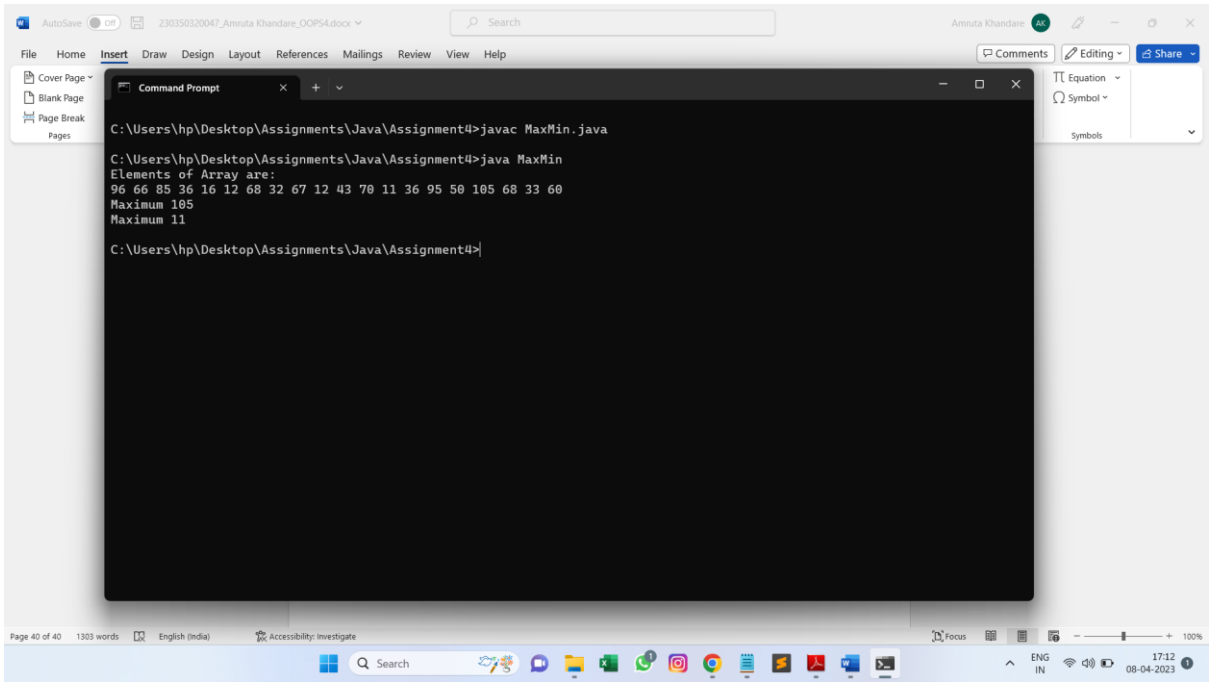
Q23:

```
import java.util.Scanner;
public class ArrayIndex
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
        System.out.print("Enter the size of array: ");
        int n = sc.nextInt();
        int[] a = new int [n];
        int i;
        System.out.print("Enter the elements of array:\n");
        for(i = 0;i < n;i++){
        a[i] = sc.nextInt();
      }
      for(i = 0;i < n;i++){
        System.out.println("Index of "+a[i]+" = "+i);
      }
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac ArrayIndex.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java ArrayIndex
Enter the size of array: 6
Enter the elements of array:
4 8 9 6 7 5
Index of 4 = 0
Index of 8 = 1
Index of 9 = 2
Index of 6 = 3
Index of 7 = 4
Index of 5 = 5
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

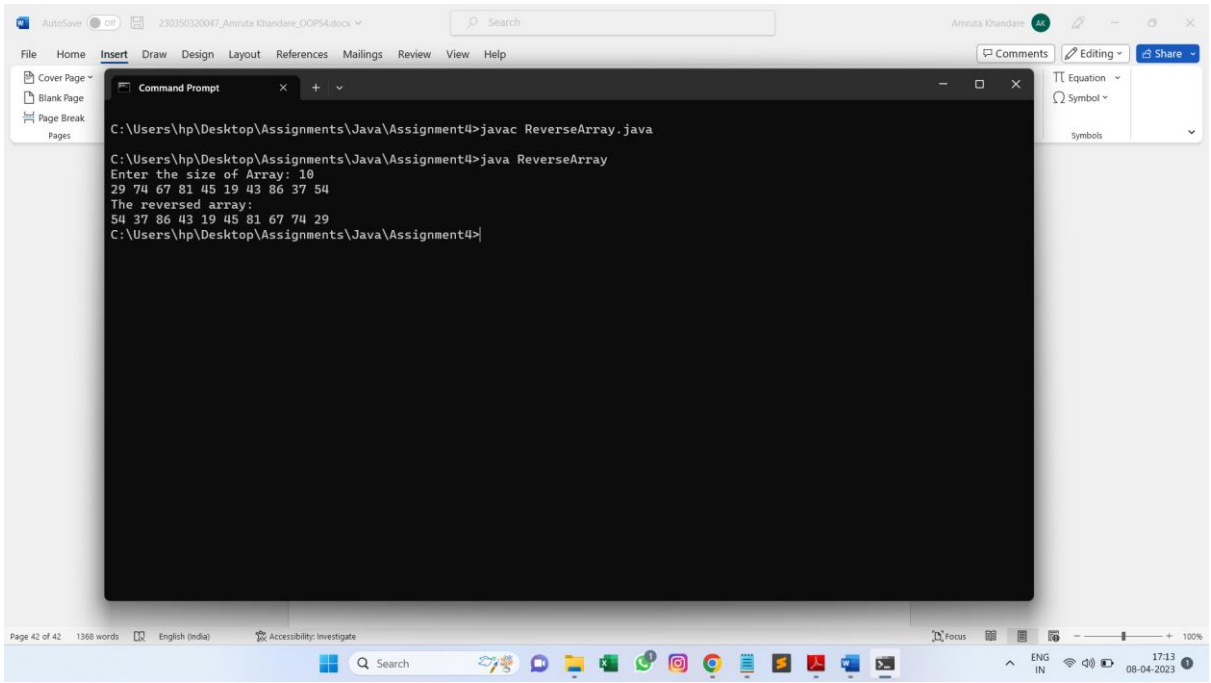
Q24:

```
import java.util.Scanner;
public class MaxMin
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                int[] a = new int [20];
                System.out.println("Elements of Array are: ");
                for(int i = 0;i < 20;i++)
                a[i] = 11 + (int)(Math.random()*99);
                for(int i: a)
                System.out.print(i+" ");
                int max = a[0];
                int min = a[0];
                for(int i = 0;i < 20;i++){
                   if(a[i] > max)
                   max = a[i];
                   if(a[i] < min)
                   min = a[i];
                }
                System.out.println("\nMaximum "+max);
                System.out.println("Maximum "+min);
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac MaxMin.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java MaxMin
Elements of Array are:
96 66 85 36 16 12 68 32 67 12 43 70 11 36 95 50 105 68 33 60
Maximum 105
Maximum 11
C:\Users\hp\Desktop\Assignments\Java\Assignment4>

Q25:

```
import java.util.Scanner;
public class ReverseArray
{
        public static void main(String[] args){
           Scanner sc = new Scanner(System.in);
                System.out.print("Enter the size of Array: ");
                int n = sc.nextInt();
                int[] a = new int [n];
                for(int i = 0;i < n;i++){
                a[i] = 1 + (int)(Math.random()*100);
                }
                for(int i: a){
                System.out.print(i+" ");
                }
                System.out.print("\nThe reversed array:\n");
                for(int i = n-1;i >= 0;i--){
                System.out.print(a[i]+" ");
                }
}}
```


Command Prompt
C:\Users\hp\Desktop\Assignments\Java\Assignment4>javac ReverseArray.java
C:\Users\hp\Desktop\Assignments\Java\Assignment4>java ReverseArray
Enter the size of Array: 10
29 74 67 81 45 19 43 86 37 54
The reversed array:
54 37 86 43 19 45 81 67 74 29
C:\Users\hp\Desktop\Assignments\Java\Assignment4>