JAVA PROGRAMMES

1.Aim:Checkwhether a give number is odd or even.

Code:

```
import java.util.Scanner;


public class Main1 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a number: ");
        int number = scanner.nextInt();


        if (number % 2 == 0) {
            System.out.println(number + " is Even.");
        } else {
            System.out.println(number + " is Odd.");
        }


        scanner.close();
    }
```

}

Output:

```
Microsoft Windows [Version 10.0.26100.3323]
(c) Microsoft Corporation. All rights reserved.

C:\Users\prodd\Desktop>javac Main1.java

C:\Users\prodd\Desktop>java Main1
Enter a number: 77
77 is Odd.

C:\Users\prodd\Desktop>
```

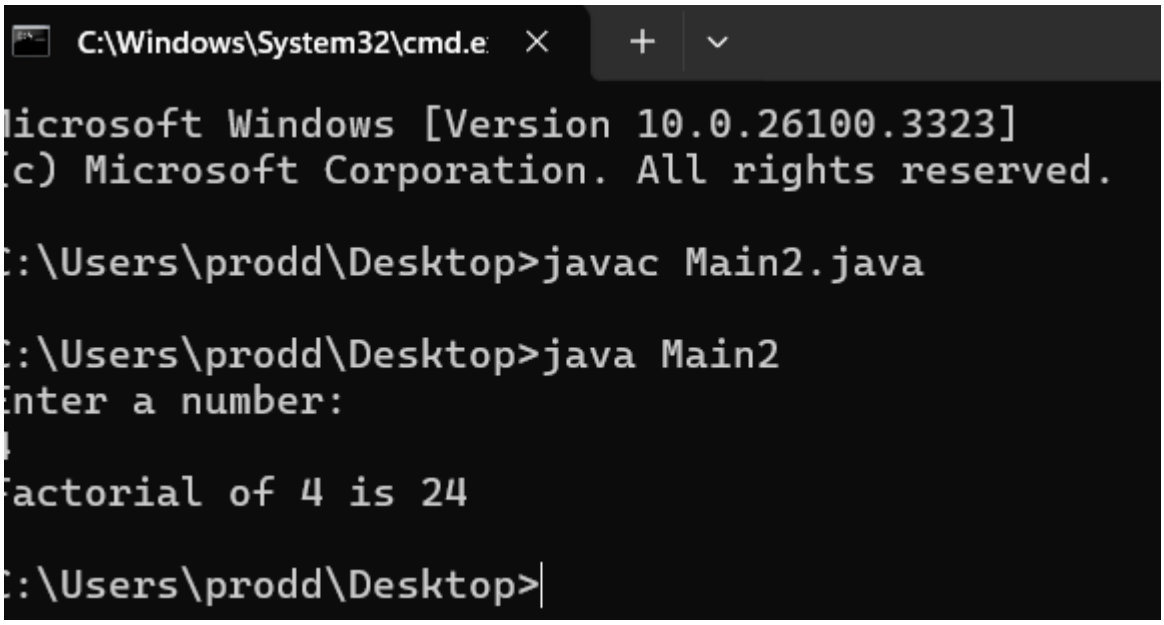
2.Aim:Factorial of a given number.

Code:

```
import java.util.Scanner;


public class Main2 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a number: ");
        int number = scanner.nextInt();


        long factorial = 1;
```

```
        for (int i = 1; i <= number; i++) {
            factorial *= i;
        }

        System.out.println("Factorial of " + number + " is " +
factorial);

        scanner.close();
    }
}
```

Output:

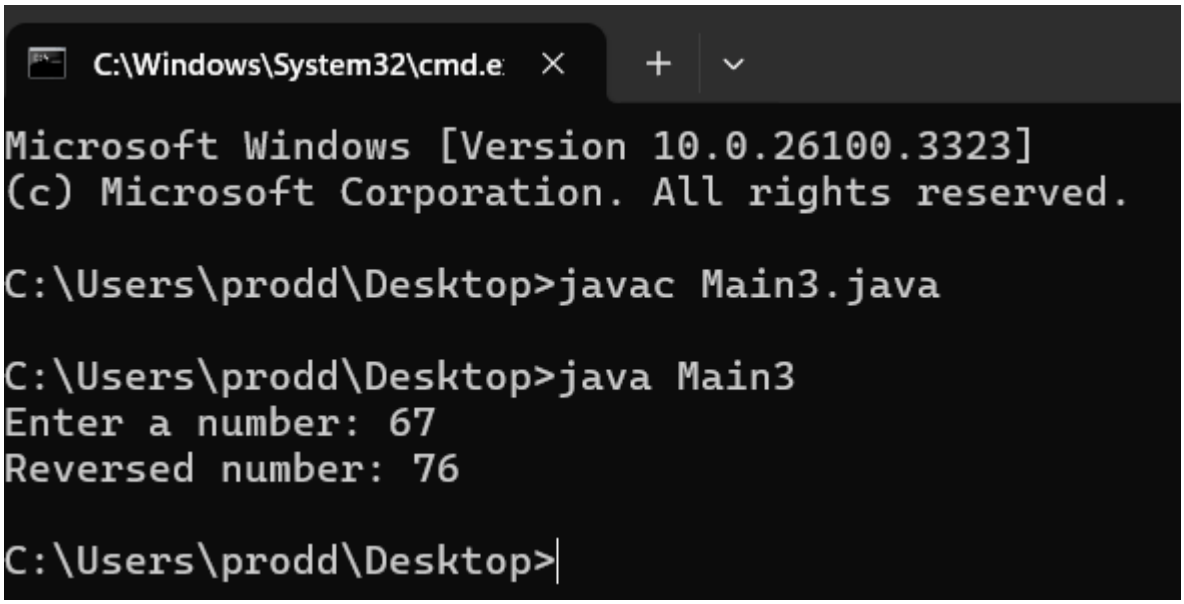


3.AIM:Reverse a number.

Code:

```
import java.util.Scanner;

public class Main3 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a number: ");
        int number = scanner.nextInt();

        int reversed = 0;
        while (number != 0) {
            int digit = number % 10;
            reversed = reversed * 10 + digit;
            number /= 10;
        }

        System.out.println("Reversed number: " + reversed);

        scanner.close();
    }
}
```

Output:



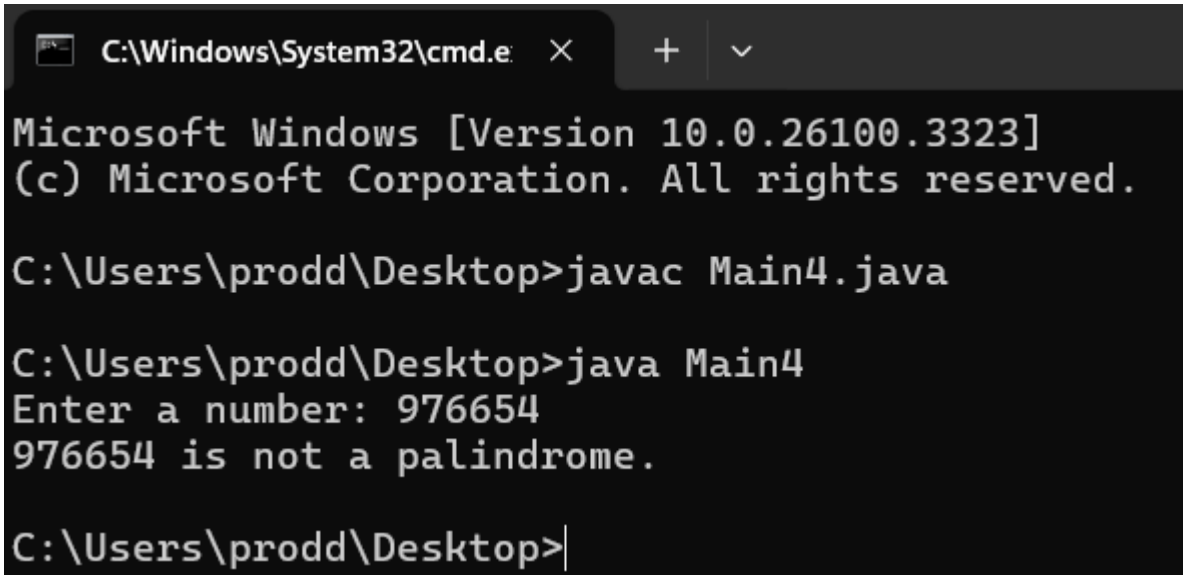
4.Aim:check whether a number is palindrome or not.

Code:

```
import java.util.Scanner;


public class Main4 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a number: ");
        int number = scanner.nextInt();
        int originalNumber = number;
```

```
        int reversed = 0;
        while (number != 0) {
            int digit = number % 10;
            reversed = reversed * 10 + digit;
            number /= 10;
        }

        if (originalNumber == reversed) {
            System.out.println(originalNumber + " is a
palindrome.");
        } else {
            System.out.println(originalNumber + " is not a
palindrome.");
        }

        scanner.close();
    }
}
```

Output:

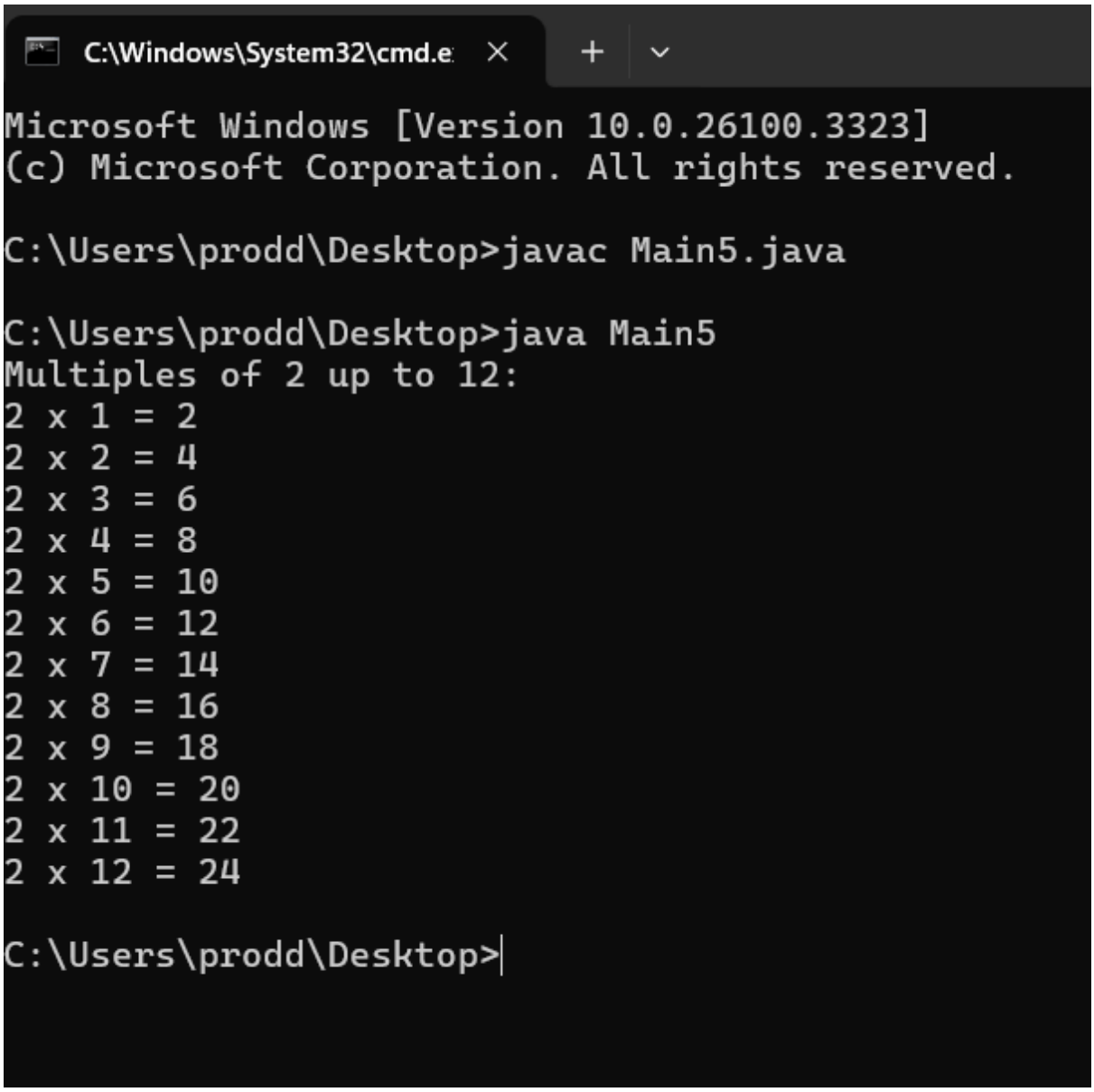


5.Aim:Multiples of 2 upto 12.

Code:

```
import java.util.Scanner;


public class Main5 {
    public static void main(String[] args) {
        System.out.println("Multiples of 2 up to 12:");


        for (int i = 1; i <= 12; i++) {
            System.out.println("2 x " + i + " = " + (2 * i));
        }
    }
}
```

Output:



6.Aim:Qudratic equation roots.

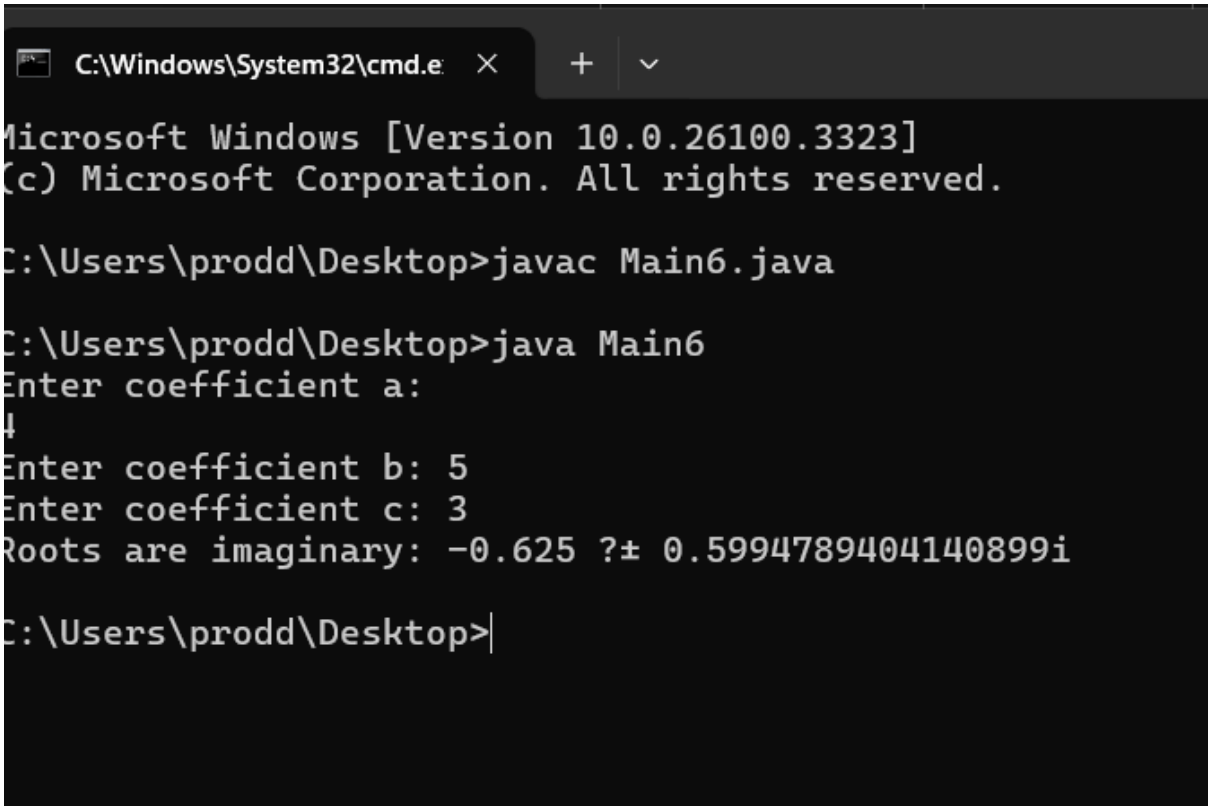
Code:

```
import java.util.Scanner;


public class Main6 {
```

```
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter coefficient a: ");
        double a = scanner.nextDouble();

        System.out.print("Enter coefficient b: ");
        double b = scanner.nextDouble();

        System.out.print("Enter coefficient c: ");
        double c = scanner.nextDouble();

        double discriminant = b * b - 4 * a * c;

        if (discriminant > 0) {
            double root1 = (-b + Math.sqrt(discriminant)) / (2 * a);
            double root2 = (-b - Math.sqrt(discriminant)) / (2 * a);
            System.out.println("Roots are real and distinct: " +
root1 + " and " + root2);
        } else if (discriminant == 0) {
            double root = -b / (2 * a);
```

```
            System.out.println("Roots are real and equal: " + root);
        } else {
            double realPart = -b / (2 * a);
            double imaginaryPart = Math.sqrt(-discriminant) / (2 *
a);
            System.out.println("Roots are imaginary: " + realPart +
" ± " + imaginaryPart + "i");
        }


        scanner.close();
    }
}
```

Output:



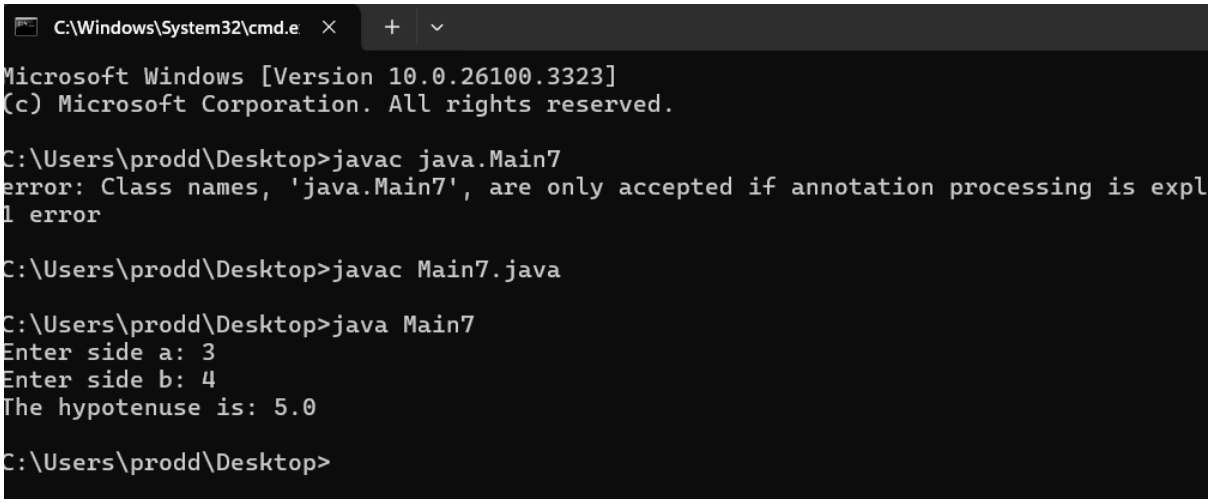
7.Aim: To Find Hypotenuse of a Triangle

Code:

```
import java.util.Scanner;


public class Main7
{

        public static void main(String[] args) {
                double x;
                double y;
```

```
        double z;

        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter side x: ");
        x =scanner.nextDouble();
      System.out.println("Enter side y: ");
      y =scanner.nextDouble();

      z = Math.sqrt((x*x)+(y*y));

      System.out.println("The hypotenuse is: "+z);

      scanner.close();
    }
}
```

Output:



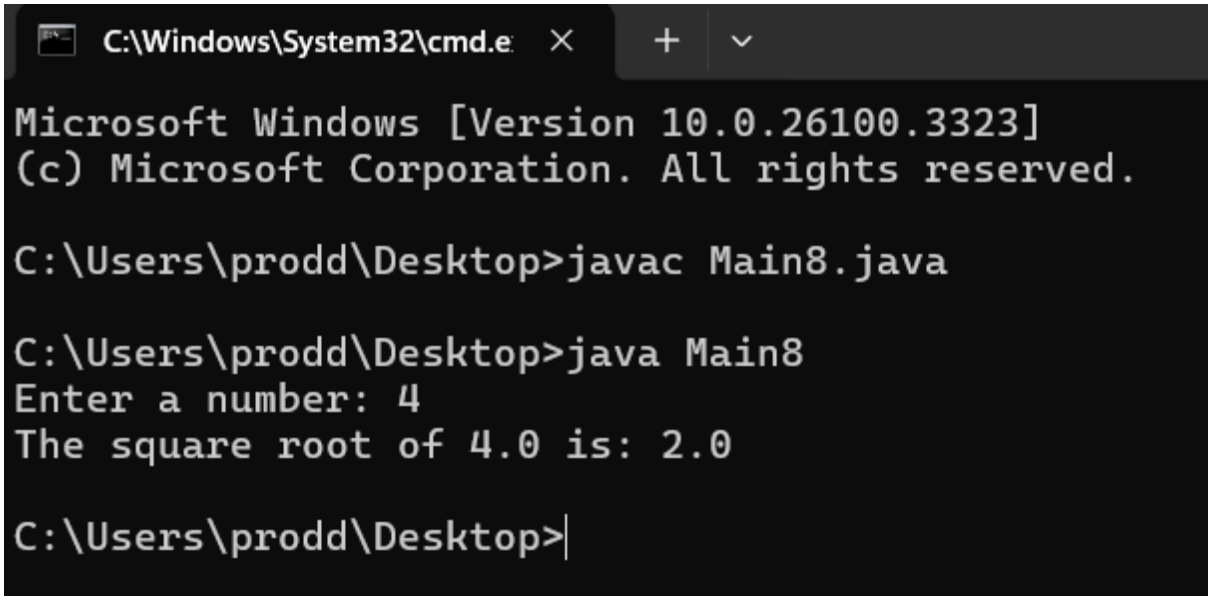
8.AIM:Square root of a number.

Code:

```
import java.util.Scanner;


public class SquareRootCalculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a number: ");
        double number = scanner.nextDouble();


        if (number < 0) {
            System.out.println("Square root of a negative number is not real.");
```

```
        } else {
            double squareRoot = Math.sqrt(number);
            System.out.println("The square root of " + number + " is: " + squareRoot);
        }

        scanner.close();
    }
}
```

Output:



9.Aim:Armstrong of a number.

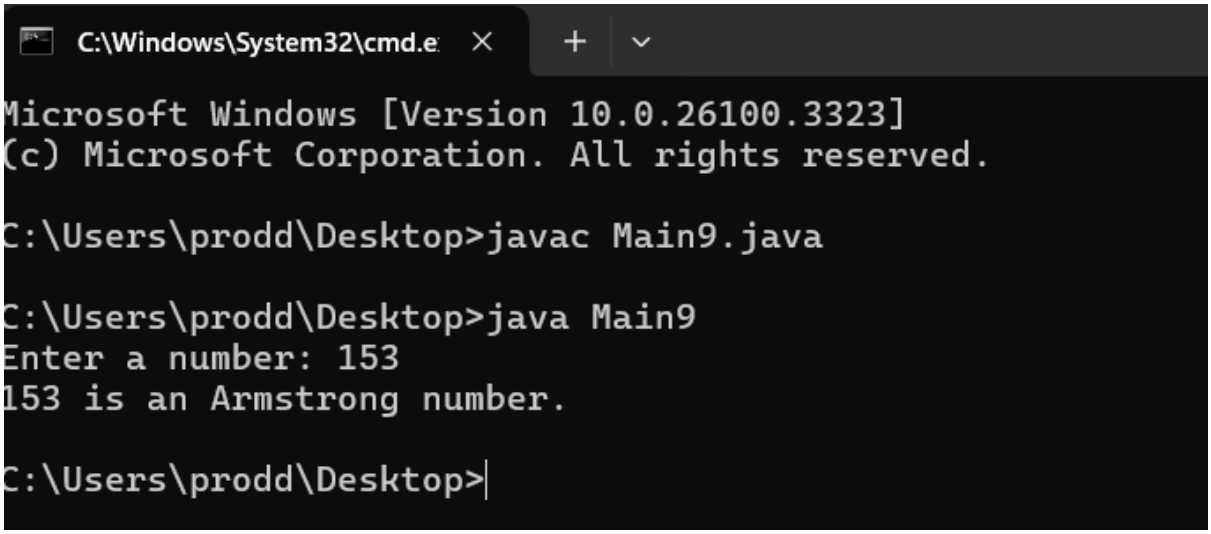
Code:

```
import java.util.Scanner;
```

```
public class Main9 {
    public static boolean isArmstrong(int num) {
        int originalNum = num, sum = 0, digits = 0;



        int temp = num;
        while (temp > 0) {
            temp /= 10;
            digits++;
        }



        temp = num;
        while (temp > 0) {
            int digit = temp % 10;
            sum += Math.pow(digit, digits);
            temp /= 10;
        }
        return sum == originalNum;
    }
```

```
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = scanner.nextInt();

        if (isArmstrong(number)) {
            System.out.println(number + " is an Armstrong number.");
        } else {
            System.out.println(number + " is not an Armstrong number.");
        }

        scanner.close();
    }
}
```

Output:



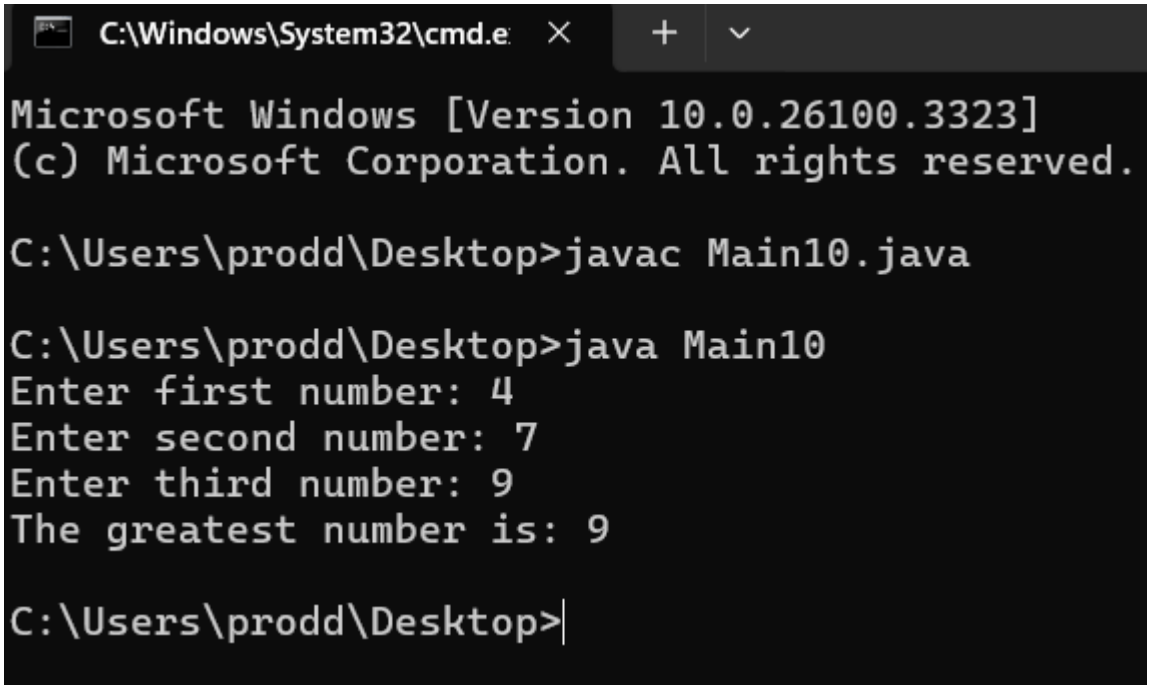
10.Aim:greastest of three numbers.

Code:

```
import java.util.Scanner;


public class Main10 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter first number: ");
        int a = scanner.nextInt();


        System.out.print("Enter second number: ");
        int b = scanner.nextInt();
```

```
        System.out.print("Enter third number: ");
        int c = scanner.nextInt();

        int greatest;


        if (a >= b && a >= c) {
            greatest = a;
        } else if (b >= a && b >= c) {
            greatest = b;
        } else {
            greatest = c;
        }

        System.out.println("The greatest number is: " + greatest);

        scanner.close();
    }
}
```

Output:


C:\Windows\System32\cmd.e
Microsoft Windows [Version 10.0.26100.3323]
(c) Microsoft Corporation. All rights reserved.
C:\Users\prodd\Desktop>javac Main10.java
C:\Users\prodd\Desktop>java Main10
Enter first number: 4
Enter second number: 7
Enter third number: 9
The greatest number is: 9
C:\Users\prodd\Desktop>