CDAC Mumbai

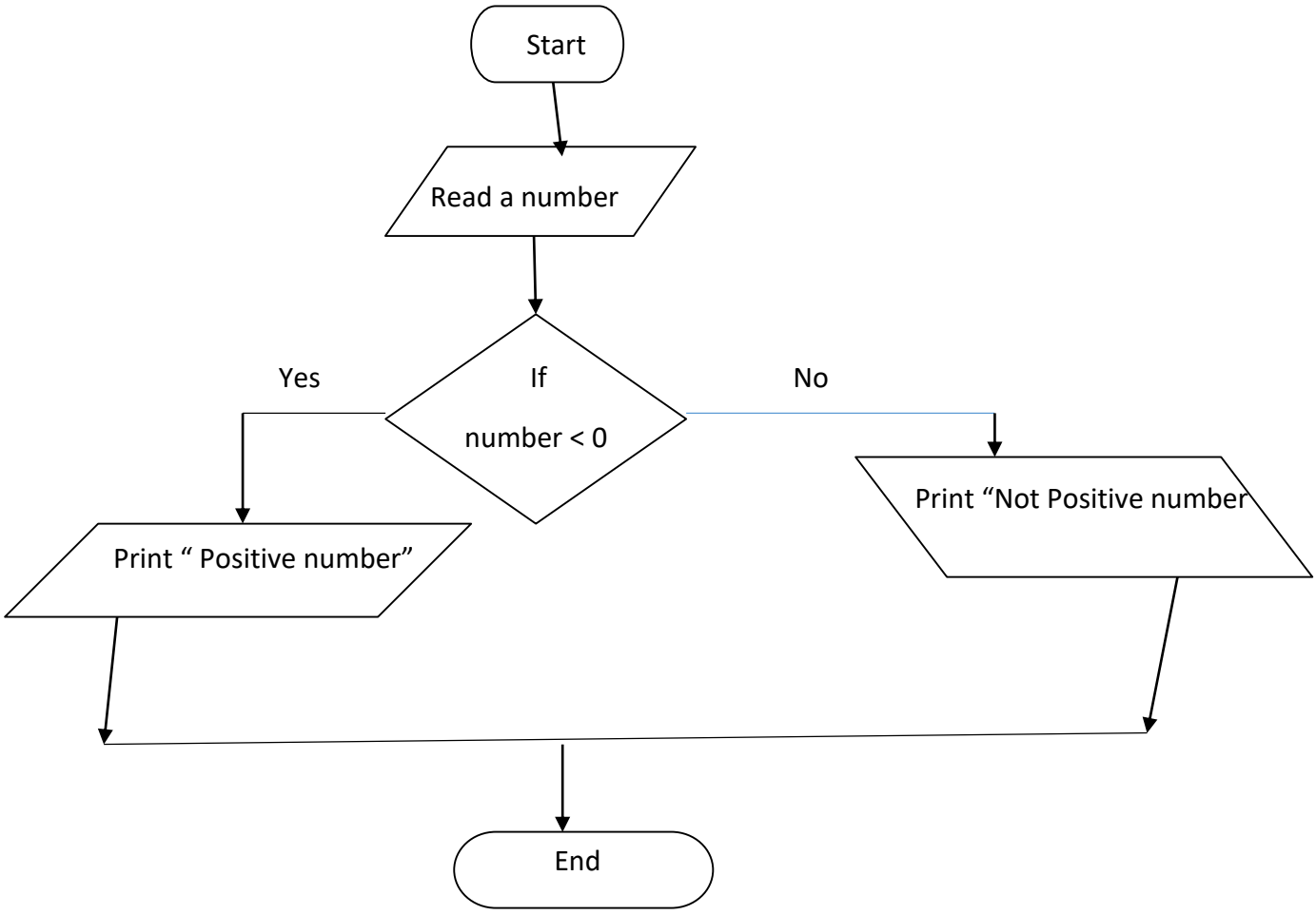
Lab Assignment: Flowchart and Java Programming

Lab Assignment No – 01

Flowchart + Java Program Questions

1. **Check Positive Number:**
   - **Task:** Create a flowchart to check whether a number is positive.
   - **Next Step:** Write a Java program that checks if a predefined number is positive using an if-else statement and prints the appropriate message.

Flowchart-



Code:-

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

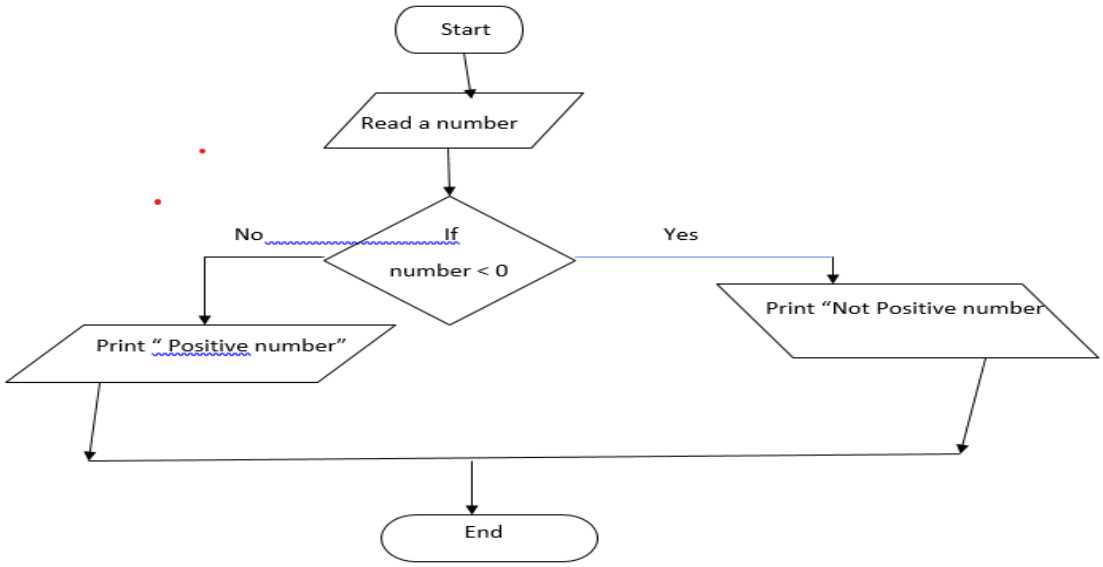
```
{
  int number = 500;
if(number>0){
    System.out.println(number+" is positive number");
}
Else{
     System.out.println(number+”is negative number”);
     }
 }
}
```

Output:-

500 is positive number

2. **Check Negative Number:**
   - **Task**: Create a flowchart to check whether a number is negative.
   - **Next Step**: Write a Java program that checks if a predefined number is negative using an if-else statement and displays the result.

   Flowchart:-



Code:

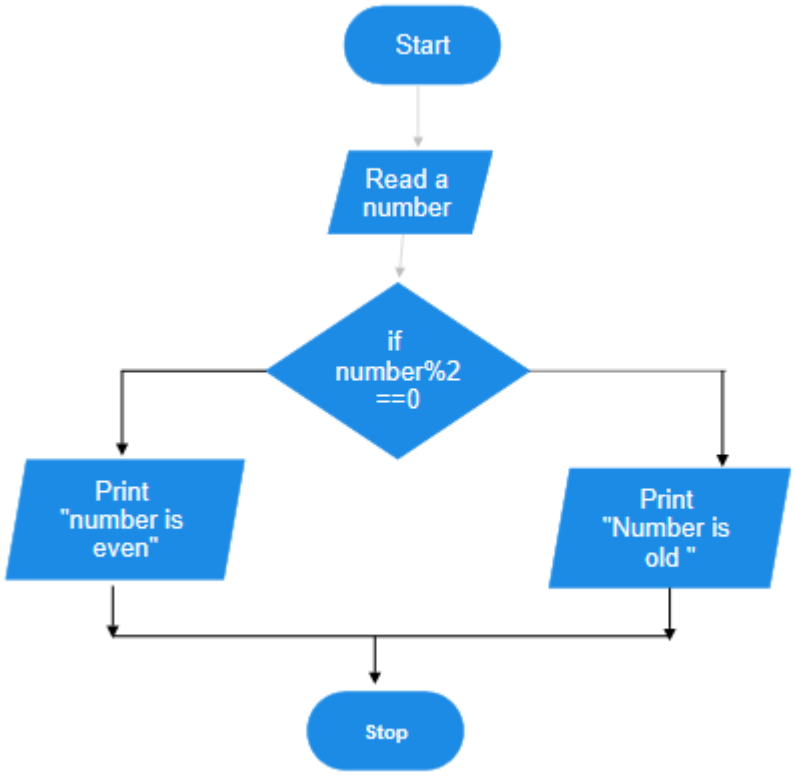
```
public class Checknegativenum{
public static void main(String[]args)
{
  int number =-4;
if(number<0)
  {
    System.out.println(number + "is negative number");
   }
 else{
     System.out.println(number + "is positive number");
     }
 }
}
```

Output:- -4 is negative number

3. Check Odd or Even Number:

- **Task**: Create a flowchart to determine whether a number is odd or even.
- **Next Step**: Write a Java program that checks if a predefined number is odd or even. Use an if-else statement and the modulus operator (%) to determine whether the number is divisible by 2 or not.

Flowchart:



Code:

```
public class Evenold{
    public  static void main(String[]args){
    int number=20;
    if(number%2==0){
       System.out.println(number +" is Even number");
       }
     else{
       System.out.println(number +" is old number");
        }
}
}
```

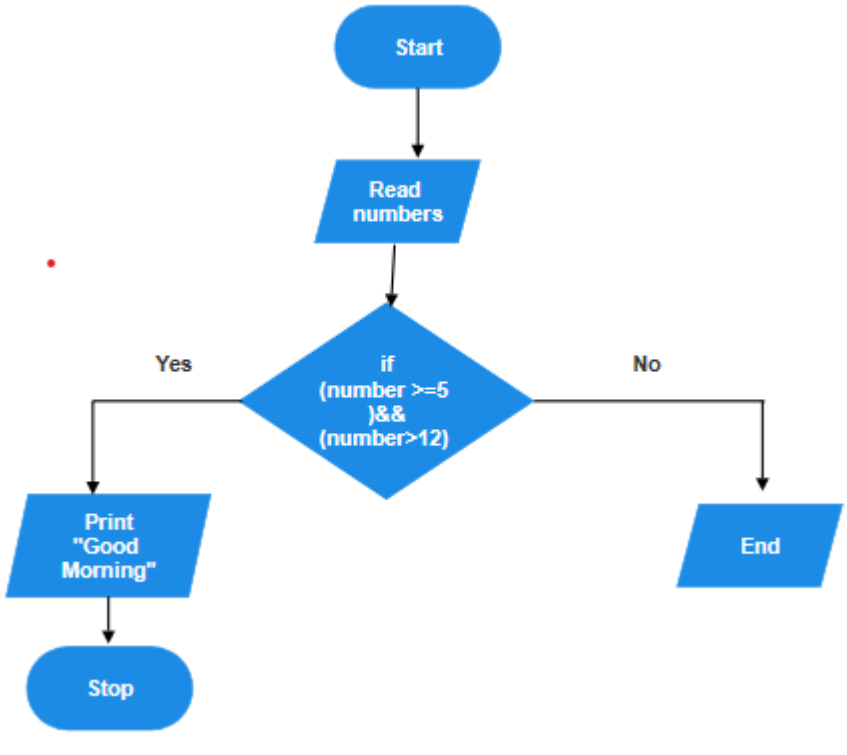
Output:-

20 is Even number

4. Display Good Morning Message Based on Time:

- **Task**: Create a flowchart to display a "Good Morning" message based on a given time.
- **Next Step**: Write a Java program that displays a "Good Morning" message if the predefined time is between 5 AM and 12 PM. Use an if statement to implement the logic.

Flowchart:-



Code:

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

        int time = ;

        if (time >= 5 && time < 12) {
            System.out.println("Good Morning");
        }

    }
}
```

Output:-

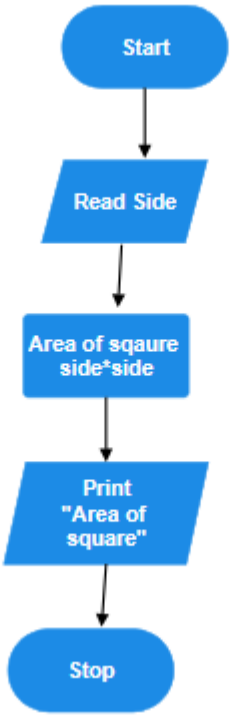
Good Morning

5. Print Area of a Square:

Task: Create a flowchart to calculate and print the area of a square.

Next Step: Write a Java program that calculates the area of a square using the formula area = side * side. Use a predefined side length.

Flowchart:



Code:

```
import java.util.Scanner;
public class AreaOfSquare {
    public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);

        System.out.print("Enter the side of the square: ");
        double side = sc.nextDouble();
        double area = side * side;

        System.out.println("Area of the square is: " + area);



    }
}
```

Output-

Enter the side of the square: 24

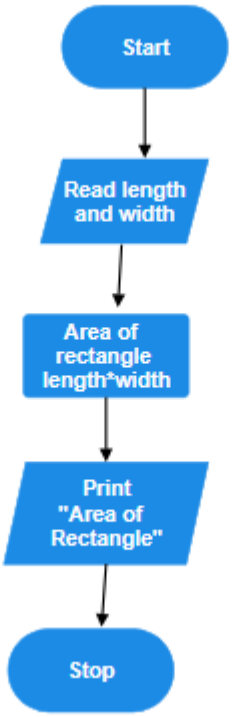
Area of the square is: 576.0

6. Print Area of a Rectangle:

- **Task**: Create a flowchart to calculate and print the area of a rectangle.

- **Next Step:** Write a Java program that calculates the area of a rectangle using the formula area = length * width. Use predefined values for length and width.

Flowchart



Code:

```
import java.util.Scanner;
public class AreaOfReactangle {
    public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);

        System.out.print("Enter the length of the square: ");
        double length = sc.nextDouble();

        System.out.print("Enter the width of the square: ");
        double width = sc.nextDouble();

        double area = length* width;

        System.out.println("Area of the Rectangle is: " + area);



    }
```

}

Output:

Enter the length of the square: 12.9

Enter the width of the square: 56.9

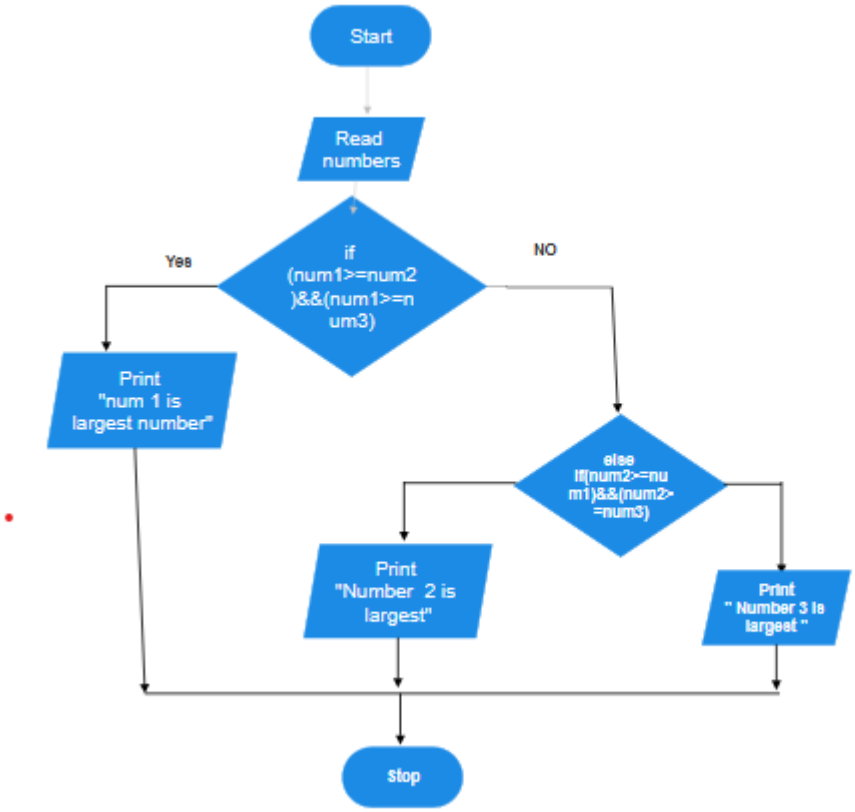
Area of the Rectangle is: 734.01

7.Find the Largest of Three Numbers:

Task: Create a flowchart to find the largest of three numbers.

Next Step: Write a Java program that finds and prints the largest of three predefined numbers using if-else statements.

Flowchart



Code:

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

      int num1 = 10;
      int num2 = 20;
      int num3 = 30;
      if((num1>=num2)&&(num1>=num3)){
        System.out.println(num1 + " is largest number");
```

```
        }
        else if((num2>=num1)&&(num2>=num3)){
          System.out.println(num2 + " is, num2, num3 largest number");
        }
        else{
            System.out.println(num3 + " is largest number");
        }


    }
}
```

Output:

30 is largest number