

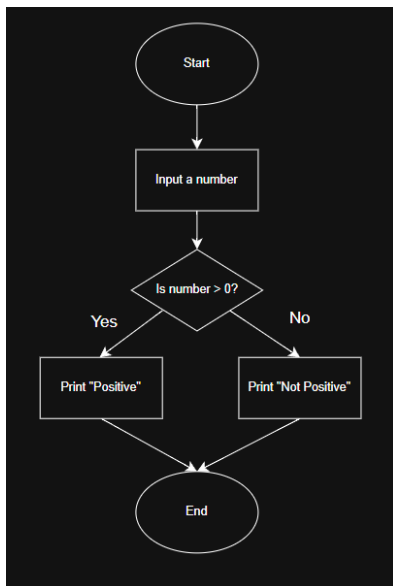
CDAC Mumbai
Lab Assignment 1: Flowchart and Java Programming

ANSWERS

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.

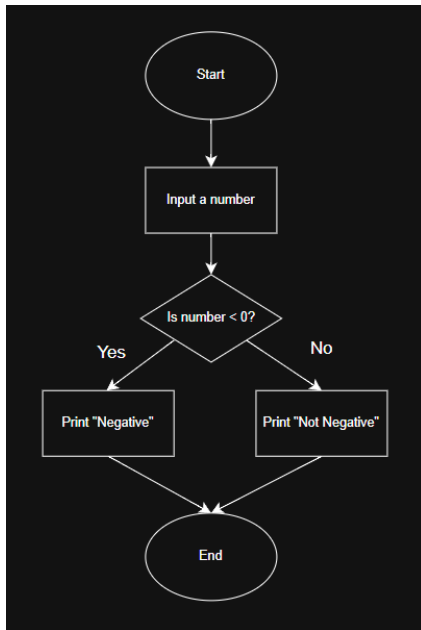


```
public class PositiveCheck {  
    Run | Debug  
    public static void main(String[] args) {  
        int number = 10;  
        if (number > 0){  
            System.out.println(number + " is a Positive number.");  
        }  
        else{  
            System.out.println(number + " is NOT a Positive number.");  
        }  
    }  
}
```

```
PS C:\Users\baenu\test> javac PositiveCheck.java  
PS C:\Users\baenu\test> java PositiveCheck  
10 is a Positive number.  
PS C:\Users\baenu\test>
```

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.

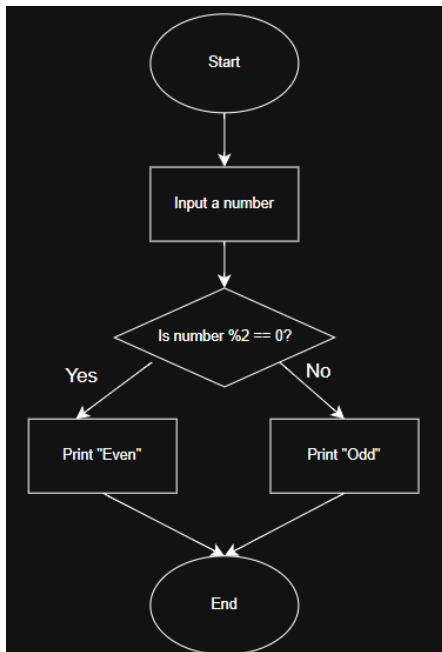


```
public class NegativeCheck {  
    Run | Debug  
    public static void main(String[] args) {  
        int number = -5;  
        if (number < 0) {  
            System.out.println(number + " is a Negative number.");  
        } else {  
            System.out.println(number + " is NOT a Negative number.");  
        }  
    }  
}
```

```
PS C:\Users\baenu\test> javac NegativeCheck.java  
PS C:\Users\baenu\test> java NegativeCheck  
-5 is a 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.

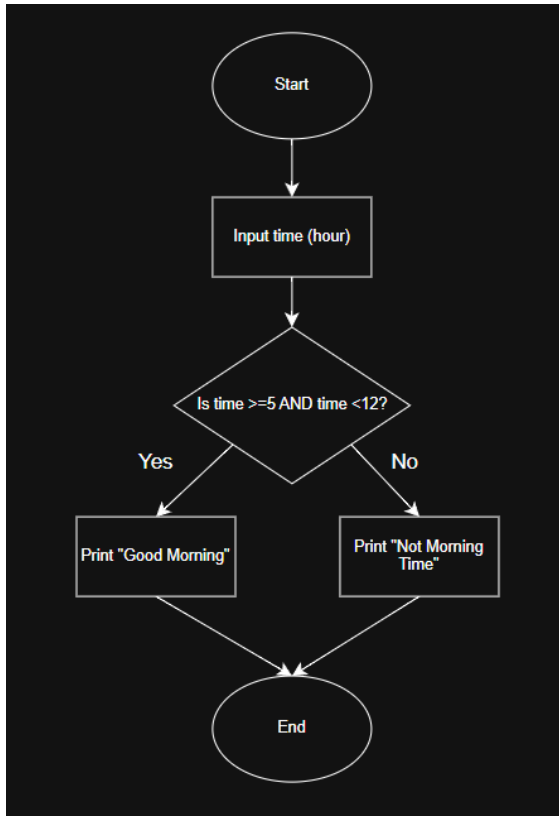


```
public class OddEvenCheck {  
    Run | Debug  
    public static void main(String[] args) {  
        int number = 7;  
        if (number % 2 == 0) {  
            System.out.println(number + " is an Even number.");  
        } else {  
            System.out.println(number + " is an Odd number.");  
        }  
    }  
}
```

```
PS C:\Users\baenu\test> javac OddEvenCheck.java  
PS C:\Users\baenu\test> java OddEvenCheck  
7 is an Odd 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.

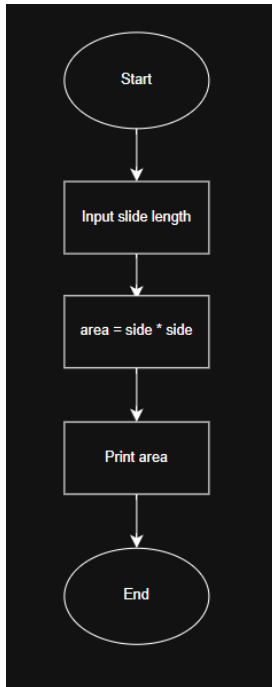


```
public class GoodMorning {  
    Run | Debug  
    public static void main(String[] args) {  
        int time = 9;  
  
        if (time >= 5 && time < 12) {  
            System.out.println(x:"Good Morning!");  
        } else {  
            System.out.println(x:"Not Morning Time.");  
        }  
    }  
}
```

```
PS C:\Users\baenu\test> javac GoodMorning.java  
PS C:\Users\baenu\test> java GoodMorning  
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 $\text{area} = \text{side} * \text{side}$. Use a predefined side length.

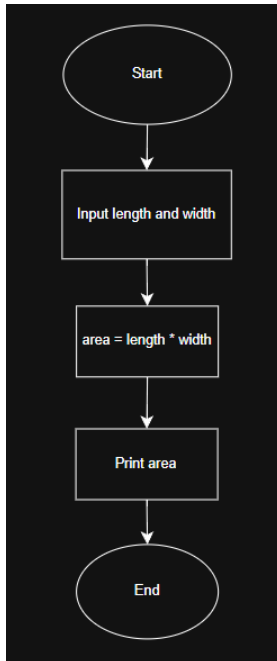


```
public class SquareArea {  
    Run | Debug  
    public static void main(String[] args) {  
        int side = 6;  
        int area = side * side;  
        System.out.println("Area of square = " + area);  
    }  
}
```

```
PS C:\Users\baenu\test> javac SquareArea.java  
PS C:\Users\baenu\test> java SquareArea  
Area of square = 36
```

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 $\text{area} = \text{length} * \text{width}$. Use predefined values for length and width.

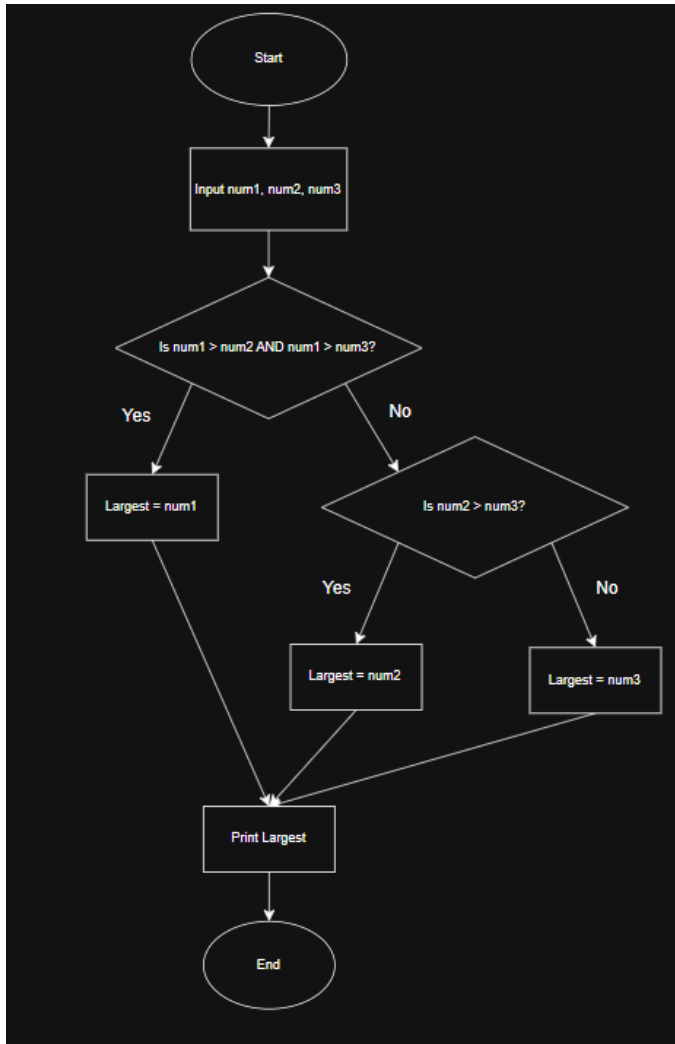


```
public class RectangleArea {  
    Run | Debug  
    public static void main(String[] args) {  
        int length = 8;  
        int width = 5;  
        int area = length * width;  
        System.out.println("Area of rectangle = " + area);  
    }  
}
```

```
PS C:\Users\baenu\test> javac RectangleArea.java  
PS C:\Users\baenu\test> java RectangleArea  
Area of rectangle = 40
```

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.



```
public class LargestNumber {  
    Run | Debug  
    public static void main(String[] args) {  
        int num1 = 25, num2 = 42, num3 = 30;  
        int largest;  
  
        if (num1 > num2 && num1 > num3) {  
            largest = num1;  
        } else if (num2 > num3) {  
            largest = num2;  
        } else {  
            largest = num3;  
        }  
  
        System.out.println("The largest number is: " + largest);  
    }  
}
```

```
PS C:\Users\baenu\test> javac LargestNumber.java  
PS C:\Users\baenu\test> java LargestNumber  
The largest number is: 42
```