CDAC Mumbai

Lab Assignment: 1

Flowchart and Java Programming

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Flowchart + Java Programming Questions: (use Notepad++)

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.

change.log | positivenum.java

```java
class positivenumber {
    public static void main(String args[])
    {
        int num1 = 10;
        if(num1 >0)
        {
            System.out.println(" The number is positive ");
        }
        else
        {
            System.out.println(" The number is not positive");
        }
    }
}
```

Output:

```
Windows PowerShell
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS D:\0 - CDAC 2025\Assignment no 1> javac positivenum.java
PS D:\0 - CDAC 2025\Assignment no 1> java  positivenum.java
 The number is positive
PS D:\0 - CDAC 2025\Assignment no 1>
```

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.

change.log | positivenum.java | numbercheck.java

```java
class numbercheck{

public static void main(String args[])
{
    int num = -5;
     if (num <0)
     {
        System.out.println("The Number is Negative");
     }
    else
     {
        System.out.println("The number is not Negative");
     }
 }
}
```

Output:

```
Windows PowerShell
PS D:\0 - CDAC 2025\Assignment no 1> javac numbercheck.java
PS D:\0 - CDAC 2025\Assignment no 1> java numbercheck.java
The Number is Negative
PS D:\0 - CDAC 2025\Assignment no 1>
```

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.

change.log | positivenum.java | numbercheck.java | oddeven.java

```java
class oddeven{
    public static void main(String args[])
    {
        int num = 8;

        if(num % 2 == 0)
        {
            System.out.println("The number is Even");

        }
        else
        {
            System.out.println("The number is Odd");
        }
    }
}
```

Output:

```
Windows PowerShell
PS D:\0 - CDAC 2025\Assignment no 1> javac oddeven.java
PS D:\0 - CDAC 2025\Assignment no 1> java oddeven.java
The number is Even
PS D:\0 - CDAC 2025\Assignment no 1>
```

4. **Display Good Morning Message Based on Time:**

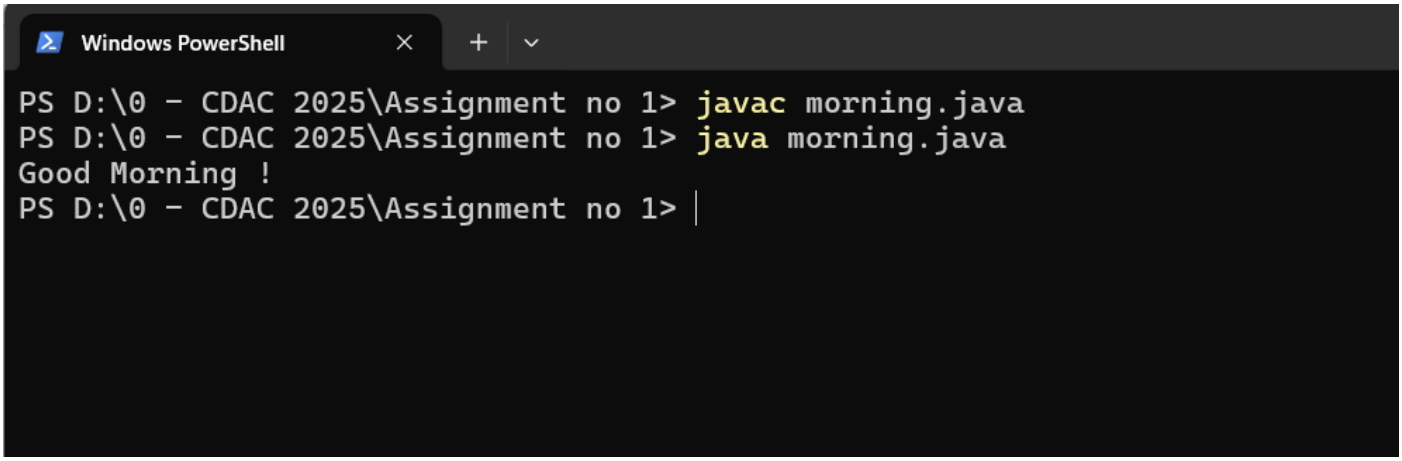
- **Task**: Create a flowchart to display a "Good Morning" message based on a given time.
- **Next Step**: Write a Java program that displays a "Good Morning" message if the predefined time is between 5 AM and 12 PM. Use an if statement to implement the logic.

change.log morning.java

```java
class morning {
    public static void main(String args [])
    {
        int time = 8;

        if (time >= 5 && time <= 12)
        {
            System.out.println("Good Morning !");
        }
        else
        {
            System.out.println("It is not morning time !");
        }
    }
}
```

Output:



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.

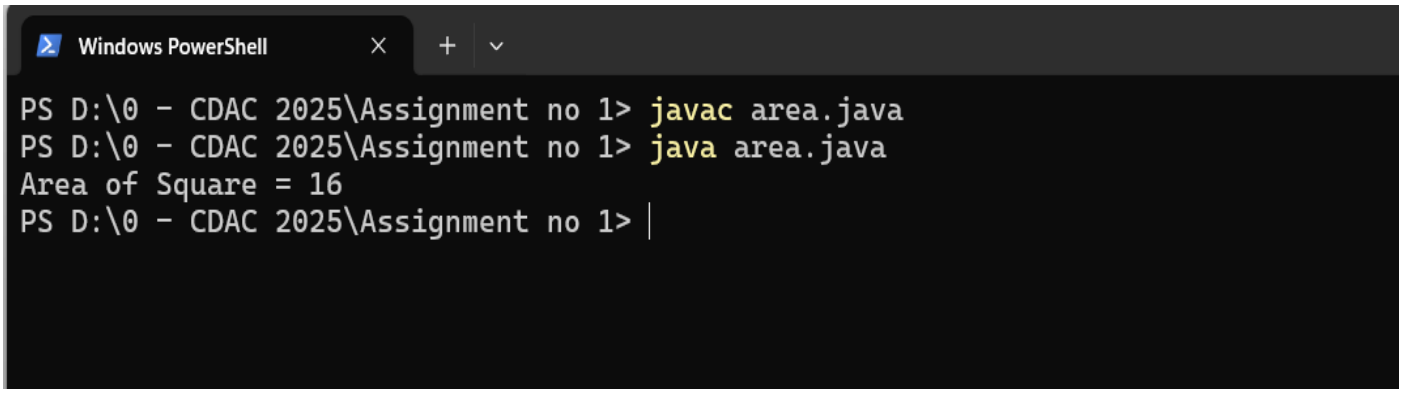
change.log area.java

```java
class area{
    public static void main(String args[])
    {
        int side = 4;
        int area ;

        area = side * side;

        System.out.println("Area of Square = "+area);
    }
}
```

Output:



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.

change.log area.java Rectangle.java

```java
class Rectangle{
    public static void main(String args[])
    {
        int len = 8;
        int wid = 4;
        int area ;

        area = len * wid ;

        System.out.println("Area of rectangle = " +area);

    }
}
```

Output:

```
Windows PowerShell
PS D:\0 - CDAC 2025\Assignment no 1> javac Rectangle.java
PS D:\0 - CDAC 2025\Assignment no 1> java Rectangle.java
Area of rectangle = 32
PS D:\0 - CDAC 2025\Assignment no 1>
```

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.

change.log | largest.java

```java
public class largest {
    public static void main(String[] args)
    {
        int num1 = 10, num2 = 25, num3 = 40;

        if (num1 > num2 && num1 > num3)
        {
            System.out.println("Largest number is: " + num1);
        }
        else if (num2 > num1 && num2 > num3)
        {

            System.out.println("Largest number is: " + num2);

        } else
        {
            System.out.println("Largest number is: " + num3);
        }
    }
}

```

Output: