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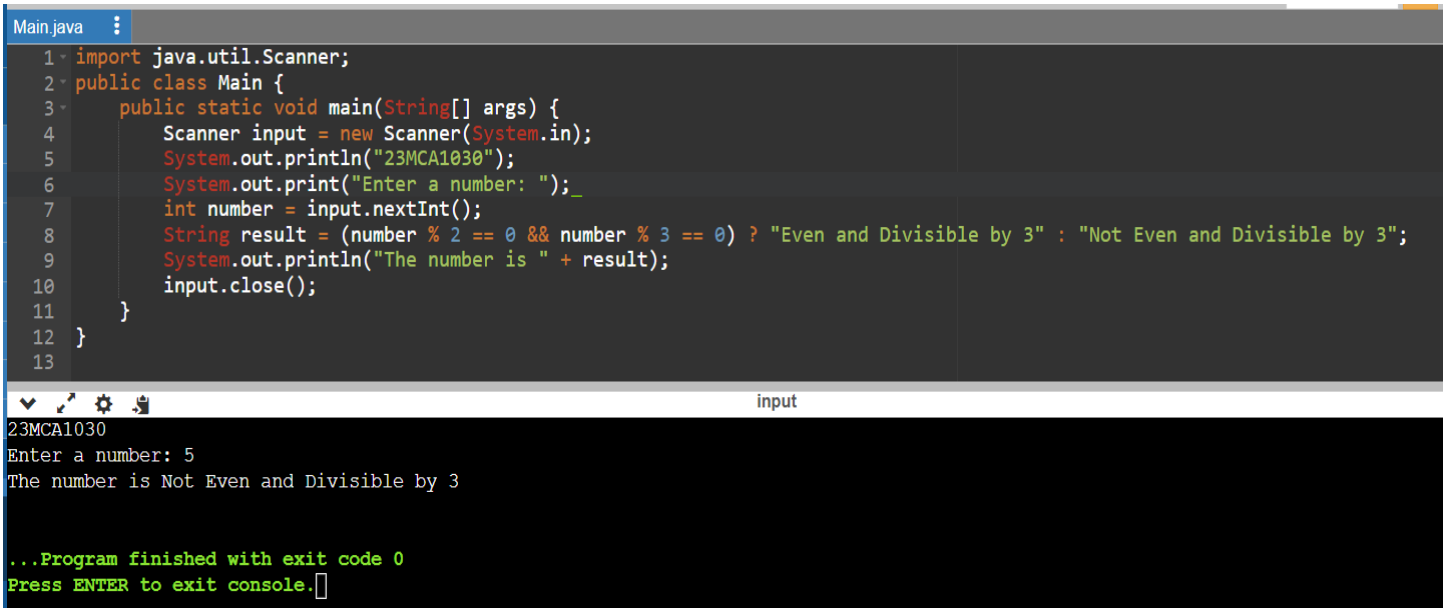
Java Programming Lab(PMCA502P)

Exercise 3.C Logical AND

1. Write a Java program that takes a number as input and checks whether it is both an even number and divisible by 3. If both conditions are true, print "Even and Divisible by 3"; otherwise, print "Not Even and Divisible by 3."

Code:

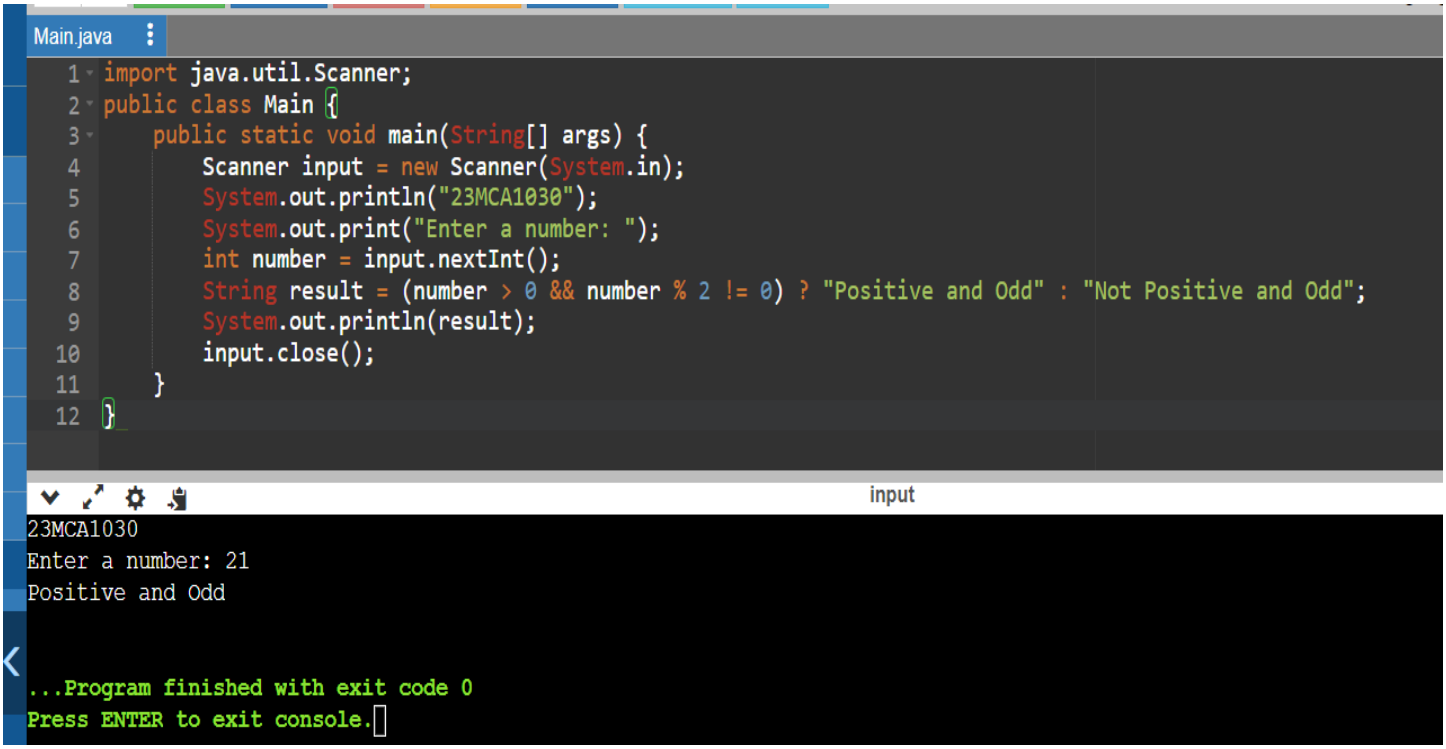
```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("23MCA1030");
        System.out.print("Enter a number: ");
        int number = input.nextInt();
        String result = (number % 2 == 0 && number % 3 == 0) ? "Even and Divisible by
3" : "Not Even and Divisible by 3";
        System.out.println("The number is " + result);
        input.close();
    }
}
```



2. Write a Java program that takes a number as input and checks whether it is both an even number and divisible by 3. If both conditions are true, print "Even and Divisible by 3"; otherwise, print "Not Even and Divisible by 3."

Code:

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("23MCA1030");
        System.out.print("Enter a number: ");
        int number = input.nextInt();
        String result = (number > 0 && number % 2 != 0) ? "Positive and Odd" : "Not
Positive and Odd";
        System.out.println(result);
        input.close();
    }
}
```

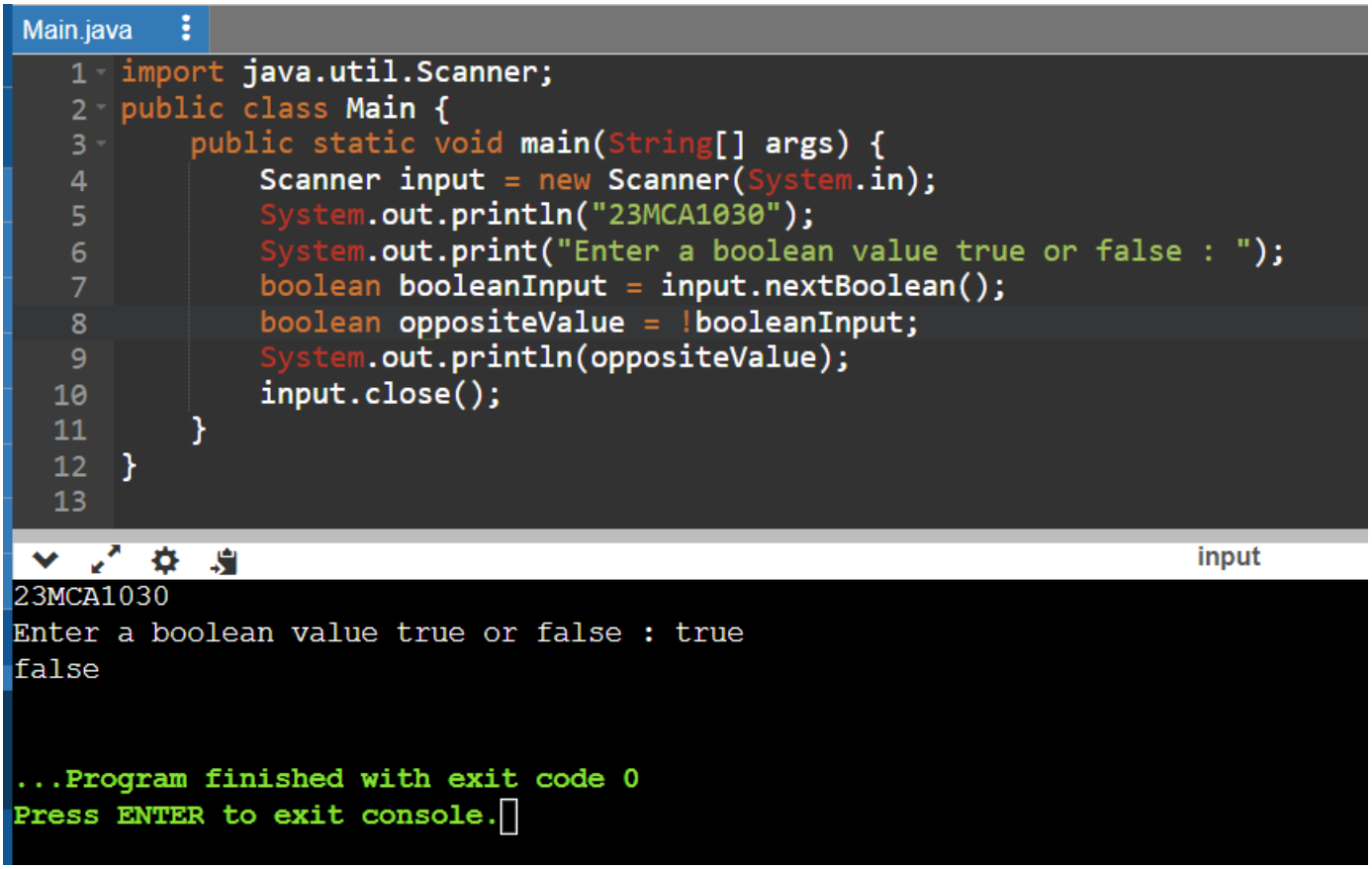


Logical OR

3. Write a Java program that takes a boolean variable as input and prints the opposite value. If the input is true, print false; if the input is false, print true.

Code:

```java
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      System.out.println("23MCA1030");
      System.out.print("Enter a boolean value true or false : ");
      boolean booleanInput = input.nextBoolean();
      boolean oppositeValue = !booleanInput;
      System.out.println(oppositeValue);
      input.close();
   }
}
```



4. Implement a program that takes a person's age as input and checks if they are not eligible for a senior citizen discount (age less than 65). If the condition is true, print "Not Eligible for Senior Citizen Discount"; otherwise, print "Eligible for Senior Citizen Discount."

Code:

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("23MCA1030");
        System.out.print("Enter age: ");
        int age = input.nextInt();
        String result = (age < 65) || (age < 0) ? "Not Eligible for Senior Citizen Discount" :
"Eligible for Senior Citizen Discount";
        System.out.println(result);
        input.close();
    }
}
```

Main.java

```
1  import java.util.Scanner;
2  public class Main {
3      public static void main(String[] args) {
4          Scanner input = new Scanner(System.in);
5          System.out.println("23MCA1030");
6          System.out.print("Enter age: ");
7          int age = input.nextInt();
8          String result = (age < 65) || (age < 0) ? "Not Eligible for Senior Citizen Discount" :
9          "Eligible for Senior Citizen Discount";
10         System.out.println(result);
11         input.close();
12     }
13 }
```

input

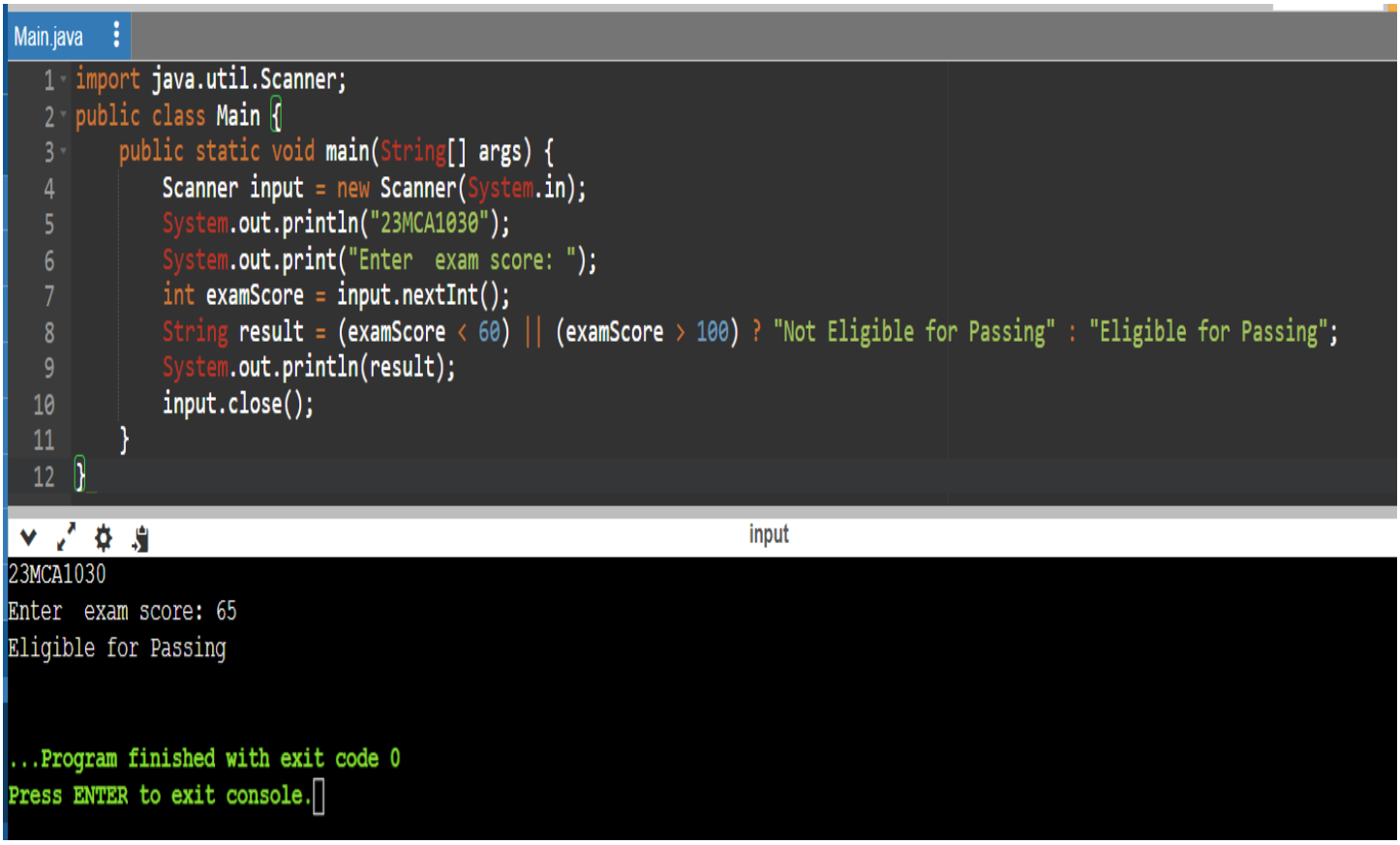
```
23MCA1030
Enter age: 67
Eligible for Senior Citizen Discount


...Program finished with exit code 0
Press ENTER to exit console.
```

5. Implement a Java program that takes a student's exam score as input and checks if they are not eligible for passing the exam (score less than 60). If the condition is true, print "Not Eligible for Passing"; otherwise, print "Eligible for Passing."

Code:

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("23MCA1030");
        System.out.print("Enter  exam score: ");
        int examScore = input.nextInt();
        String result = (examScore < 60) || (examScore > 100) ? "Not Eligible for
Passing" : "Eligible for Passing";
        System.out.println(result);
        input.close();
    }
}
```

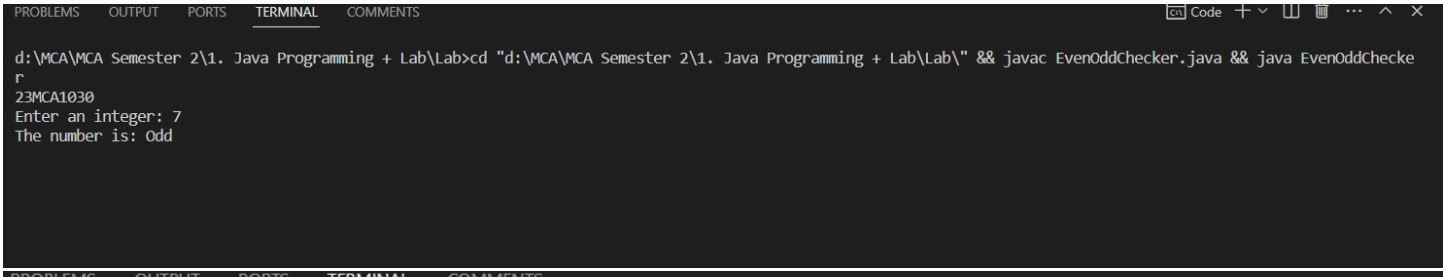


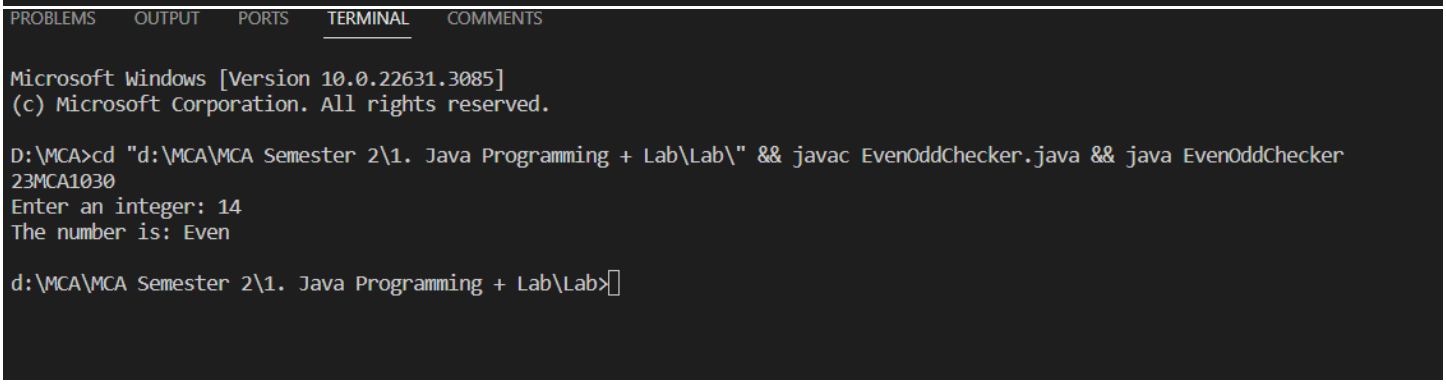
Conditional or Ternary Operator

1. Write a Java program that takes an integer as input and uses the ternary operator to determine if it's even or odd. Print "Even" or "Odd" accordingly.

Code:

```java
import java.util.Scanner;
public class EvenOddChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("23MCA1030");
        System.out.print("Enter an integer: ");
        int number = scanner.nextInt();
        String result = (number % 2 == 0) ? "Even" : "Odd";
        System.out.println("The number is: " + result);
        scanner.close();
    }
}
```





2. Create a program that takes a number as input and uses the ternary operator to determine if it's positive or negative. Print "Positive" or "Negative" accordingly.

Code:

```java
import java.util.Scanner;
public class PositiveNegativeChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = scanner.nextInt();
        String result = number > 0 ? "Positive" : number < 0 ? "Negative" : "Zero";
        System.out.println(number + " is " + result);
        scanner.close();
    }
}
```

```
d:\MCA\MCA Semester 2\1. Java Programming + Lab\Lab>cd "d:\MCA\MCA Semester 2\1. Java Programming + Lab\Lab\" && javac PositiveNegativeChecker.java && java Posi
tiveNegativeChecker
Enter a number: 8
8 is Positive

d:\MCA\MCA Semester 2\1. Java Programming + Lab\Lab>
```

```
Microsoft Windows [Version 10.0.22631.3085]
(c) Microsoft Corporation. All rights reserved.

D:\MCA>cd "d:\MCA\MCA Semester 2\1. Java Programming + Lab\Lab\" && javac PositiveNegativeChecker.java && java PositiveNegativeChecker
Enter a number: -3
-3 is Negative

d:\MCA\MCA Semester 2\1. Java Programming + Lab\Lab>
```