



# Lab Task

Subject: Introduction to JAVA

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# Part 1 and Part 2

```
// Lab 3: Understanding flow of Control
// Part 1 : Boolean Expression and Relation Operators

import java.util.Scanner;
public class BooleanOperatorsLab {
    public static void main (String [] args){
        int num1, num2;

        Scanner input = new Scanner(System.in);

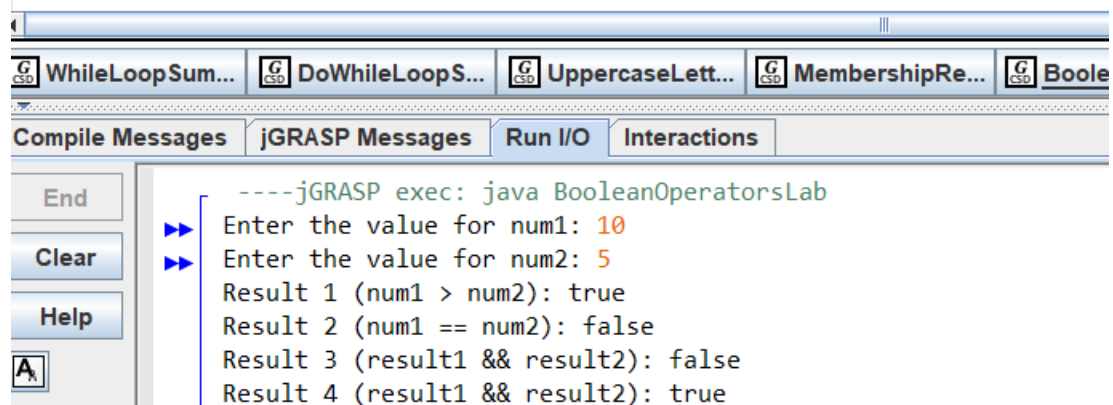
        System.out.print("Enter the value for num1: ");
        num1 = input.nextInt();
        System.out.print("Enter the value for num2: ");
        num2 = input.nextInt();

        boolean result1 = (num1>num2);
        boolean result2 = (num1 == num2);

        System.out.println("Result 1 (num1 > num2): "+result1);
        System.out.println("Result 2 (num1 == num2): "+result2);

        //part 2 : Logical Operator
        boolean result3 = (result1 && result2);
        System.out.println("Result 3 (result1 && result2): "+result3);

        boolean result4 = (result1 || result2);
        System.out.println("Result 4 (result1 || result2): "+result4);
    }
}
```



# Part 3 Task 1 and Part 5 Task 1

```
// Lab 3: Understanding flow of Control
// Part 3: Using if statement
// Task 1: Checking Eligibility for Discount

import java.util.Scanner;

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

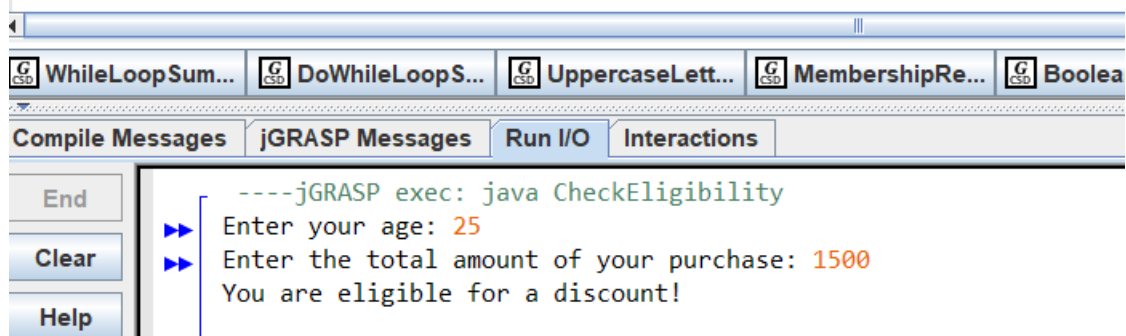
        System.out.print("Enter your age: ");
        int age = scanner.nextInt();

        System.out.print("Enter the total amount of your purchase: ");
        int totalAmount = scanner.nextInt();

        if(age >= 18 && age <= 30 && totalAmount>=1000)
            System.out.println("You are eligible for a discount!");

        // part 5: Using else statements
        // Task 1: Adding else to part 3 (Task 1 and 2)
        else
            System.out.println("Sorry, you are not eligible for a discount.");

    }
}
```



# Part 3 Task 2 and Part 5 Task 2

```
// Lab 3: Understanding flow of Control
// Part 3: Using if statement
// Task 2: Membership Renewal

import java.util.Scanner;

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

        boolean isMember;
        int yearsOfMembership;

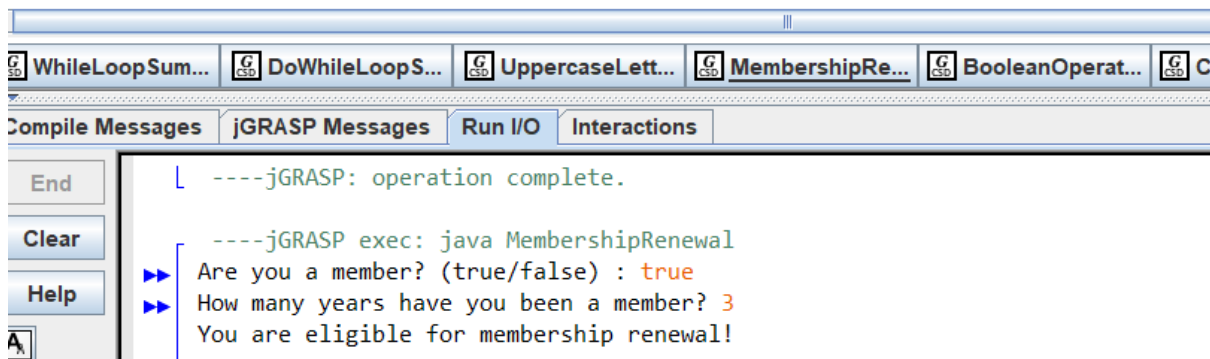
        Scanner scanner = new Scanner (System.in);

        System.out.print("Are you a member? (true/false) :");
        isMember = scanner.nextBoolean();

        System.out.print("How many years have you been a member? ");
        yearsOfMembership = scanner.nextInt();

        if(isMember == true && yearsOfMembership >=2)
            System.out.println("You are eligible for membership renewal!");

        // Part 5
        // Task 2
        else{
            System.out.println("You are not eligible for membership renewal.");
        }
    }
}
```



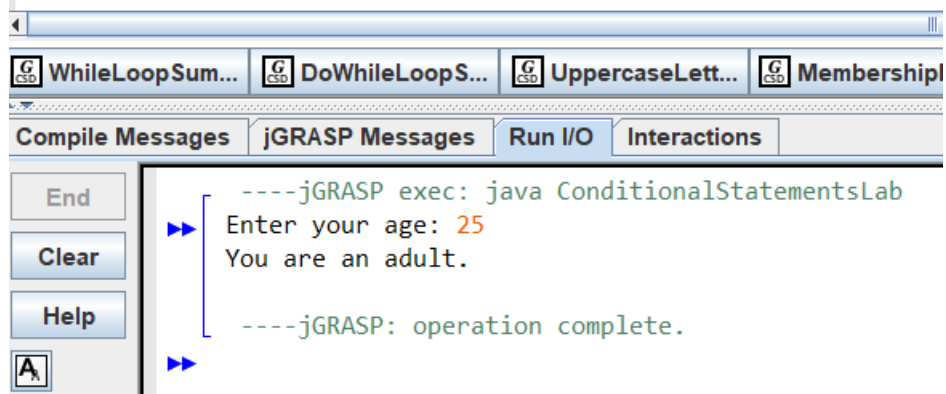
# Part 6

```
// Lab 3: Understanding flow of Control
// Part 6: Using if else if statement

import java.util.Scanner;

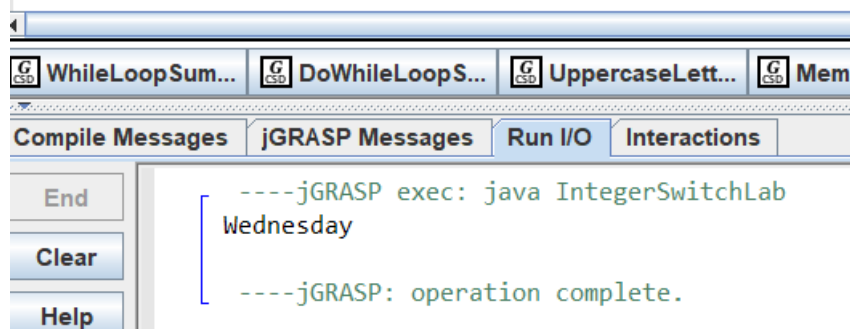
public class ConditionalStatementsLab{
    public static void main (String [] args){
        Scanner scanner = new Scanner (System.in);
        System.out.print("Enter your age: ");
        int age = scanner.nextInt();

        if(age < 0)
            System.out.println("Invalid age.");
        else if(age <18)
            System.out.println("You are a minor.");
        else if(age <= 65)
            System.out.println("You are an adult.");
        else
            System.out.println("You are a senior citizen");
    }
}
```



# Part 7

```
public class IntegerSwitchLab {  
    public static void main (String [] args){  
        int dayOfWeek = 3;  
  
        switch(dayOfWeek){  
            case 1:  
                System.out.println("Monday");  
                break;  
            case 2:  
                System.out.println("Tuesday");  
                break;  
            case 3:  
                System.out.println("Wednesday");  
                break;  
            case 4:  
                System.out.println("Thursday");  
                break;  
            case 5:  
                System.out.println("Friday");  
                break;  
            case 6:  
                System.out.println("Saturday");  
                break;  
            case 7:  
                System.out.println("Sunday");  
                break;  
            default:  
                System.out.println("Invalid day");  
                break;  
        }  
    }  
}
```



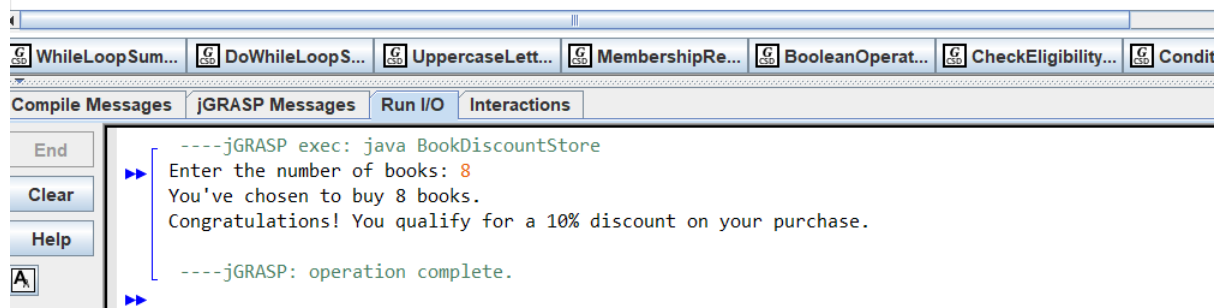
# Question 1

```
public class BookDiscountStore{
    public static void main (String [] args){
        Scanner scanner = new Scanner (System.in);
        System.out.print("Enter the number of books: ");
        int numberOfBooks = scanner.nextInt();
        int discount=0;

        if(numberOfBooks < 0){
            System.out.println("Invalid Input");
            return;
        }
        else if(numberOfBooks <=5)
            discount = 5;
        else if(numberOfBooks <=10)
            discount = 10;
        else if(numberOfBooks > 10)
            discount = 15;

        System.out.println("You've chosen to buy "+numberOfBooks +" books.");
        System.out.println("Congratulations! You qualify for a " +discount +"% discount on your purchase.");

    }
}
```



# Question 2

```
import java.util.Scanner;

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

        System.out.print("Enter your GPA: ");
        double gpa = scanner.nextDouble();

        System.out.print("Have you completed Course A? (true/false): ");
        boolean completedCourseA = scanner.nextBoolean();

        System.out.println("You are eligible to enroll in the following courses:");

        if (gpa >= 3.5) {
            System.out.println("- Course C");
            System.out.println("- Course D");
        } else if (gpa >= 3.0) {
            System.out.println("- Course C");
            if (completedCourseA) {
                System.out.println("- Course D");
            }
        } else {
            if (completedCourseA && gpa >= 2.5) {
                System.out.println("- Course D");
            }
        }
    }
}
```

