DSA Week 3 activities

This week, you are required to complete two questionnaires and one lab.

a. In this print out, answer all week 3 questions.
b. Also, in this print out, complete week 3 lab 1 and lab 2 using the lab computers.

Note: You can complete the activities in any order, however, make afford to complete and understand everything which prepares you for well for test 1, test 2, Major Assignment, Mid Semester Exam & Final Exam.

DSA Week 3 Questions

1. Referring to Java programming, what are expressions?

2. Referring to Java programming, what are literals?

3. Referring to Java programming, what are operators?

4. Explain the concept of casting and give an example of one form of casting.

5. Explain the three control flows used in Java programming

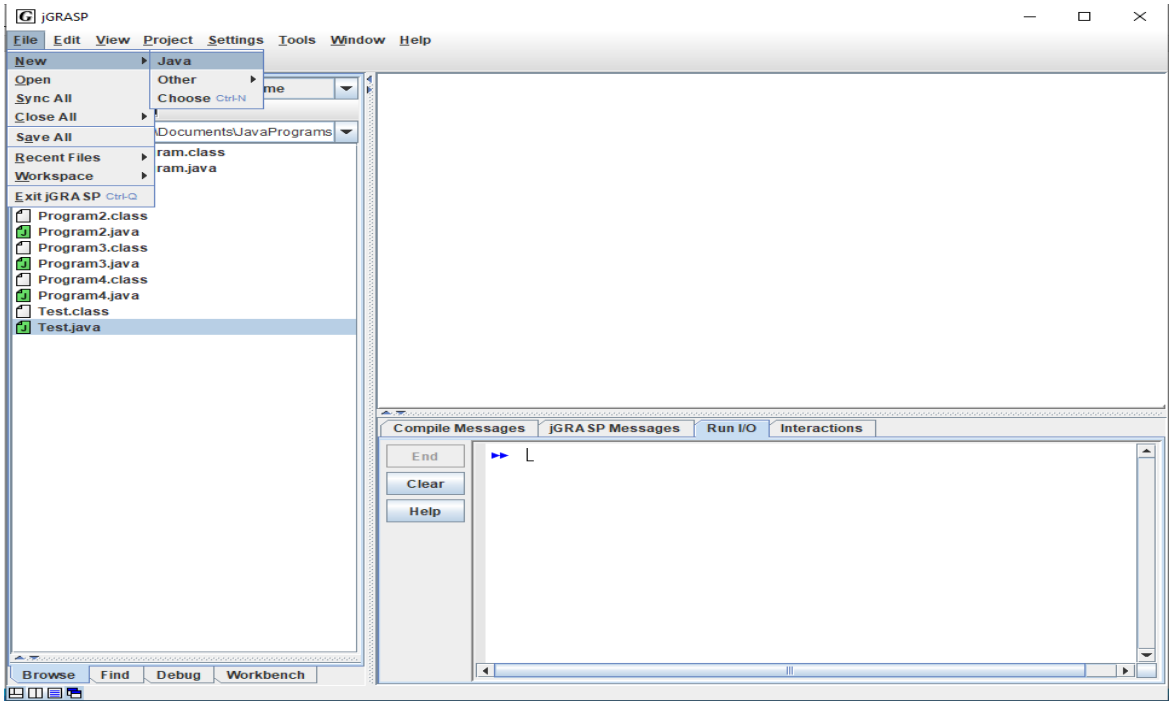
6. Discuss when the break statement should be used instead of the continue statement.

7. What the difference between Java System.in and System.out?

DSA Week 3 Lab Activity (Week3Lab1)

Using the lab computers create the following Java program using jGrasp!

Step 1: Login to your lab computer and **create a new java file in jGrasp**.

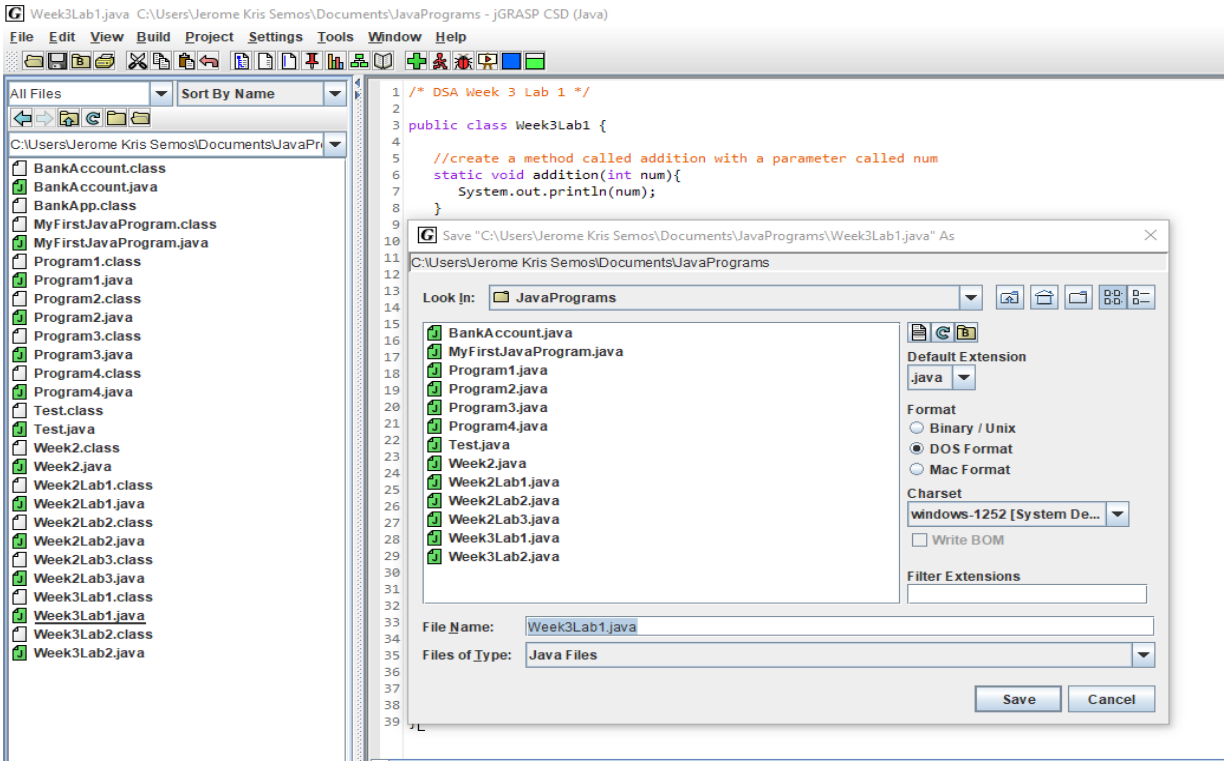


Step 2: When the window below appears. **Type the following code into jGrasp.**

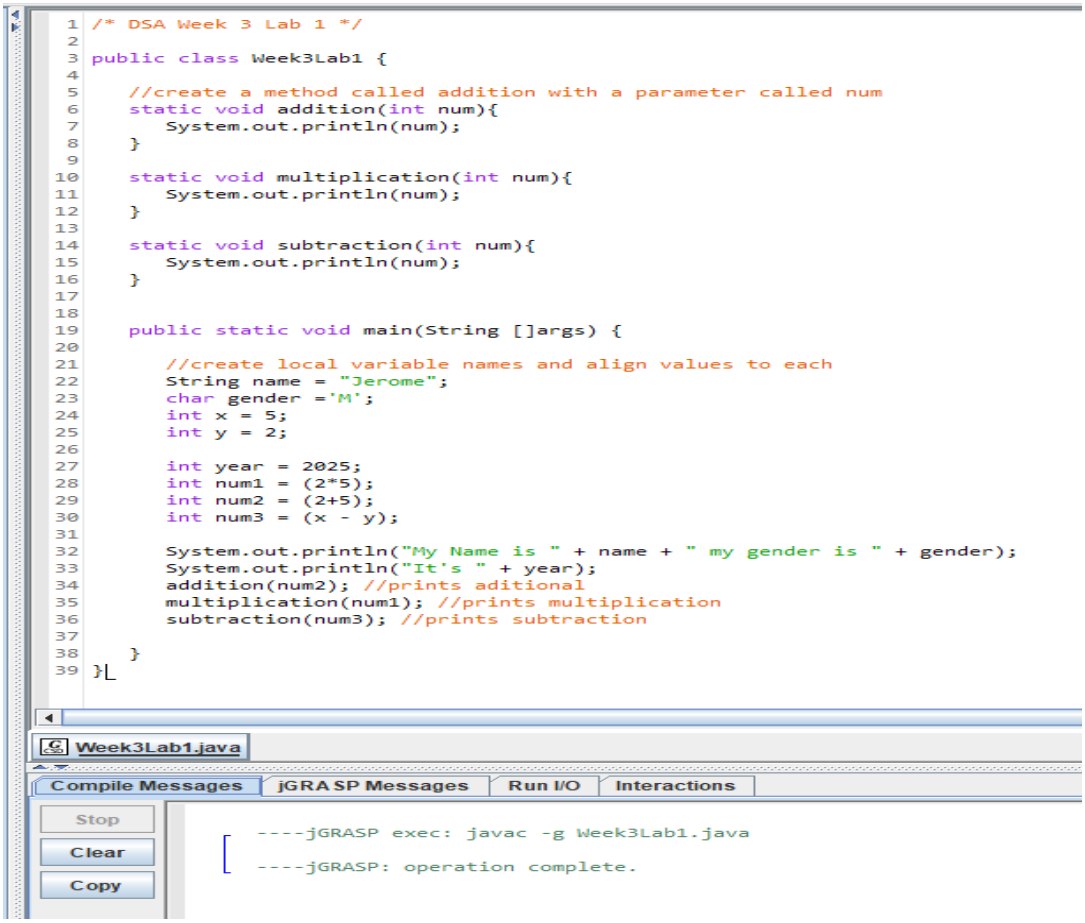
```
/* DSA Week 3 Lab 1 */

public class Week3Lab1 {

    //create a method called addition with a parameter called num
    static void addition(int num){
        System.out.println(num);
    }

    static void multiplication(int num){
        System.out.println(num);
    }

    static void subtraction(int num){
        System.out.println(num);
    }


    public static void main(String []args) {

        //create local variable names and align values to each
        String name = "Jerome";
        char gender ='M';
        int x = 5;
        int y = 2;

        int year = 2025;
        int num1 = (2*5);
        int num2 = (2+5);
        int num3 = (x - y);

        System.out.println("My Name is " + name + " my gender is " + gender);
        System.out.println("It's " + year);
        addition(num2); //prints aditional
        multiplication(num1); //prints multiplication
        subtraction(num3); //prints subtraction

    }
}
```

You can type your own name, gender and numbers for this activity.

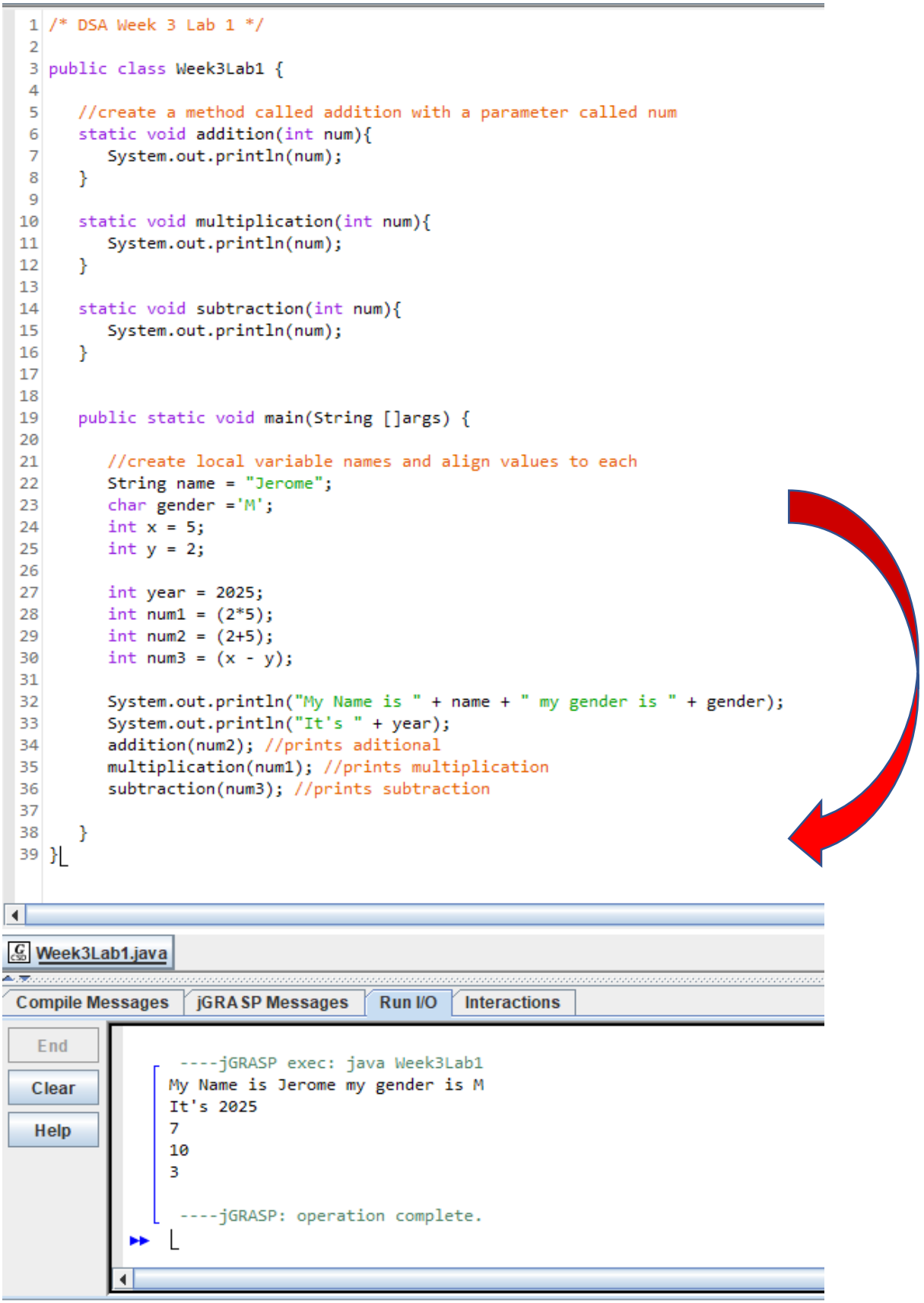
Step 3: Go to **file/save** to save your java program as **Week3Lab1**



Step 4: After saving, compile (Go to **Build/Compile**) to check for syntax errors. If compile is successfully then run (Go the **Build/Run**) your program. **Below is example of the successful compiled program.**



Step 5: Wait for the Java program to compile. If you see the message in the window below, it has successfully compiled.

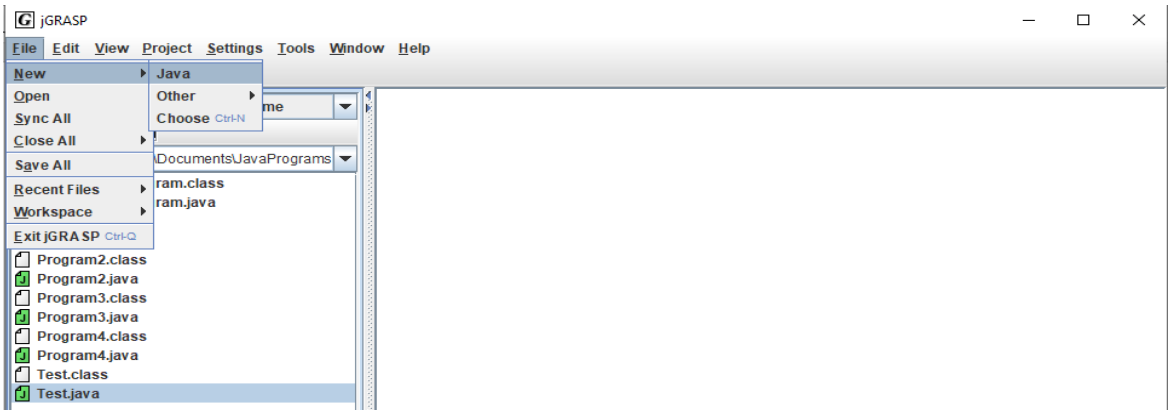


Step 6: Week3Lab1 Completed! Save your file for future Java lab activities.

DSA Week 3 Lab Activity (Week3Lab2)

Using the lab computers create the following Java program using jGrasp!

Step 1: Login to your lab computer and **create a new java file** in jGrasp.

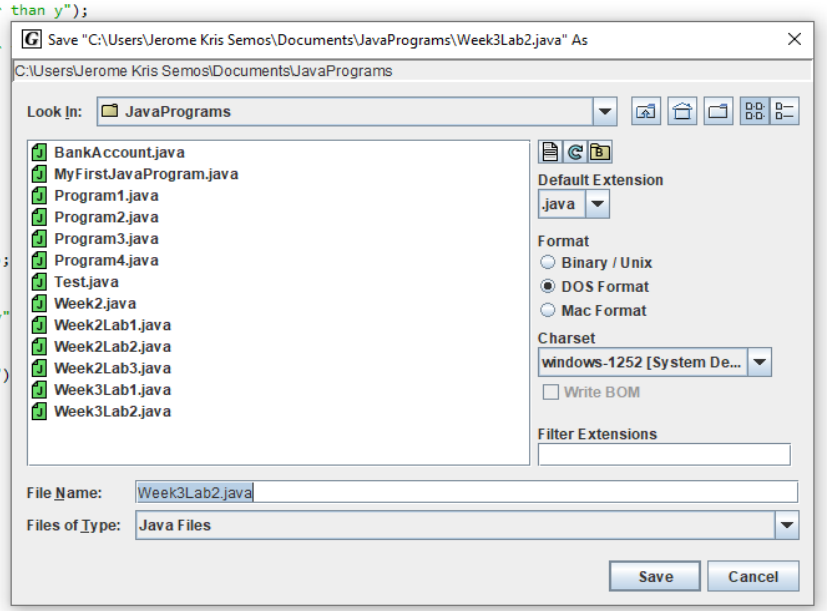


Step 2: When the window below appears. **Type the following code into jGrasp**.

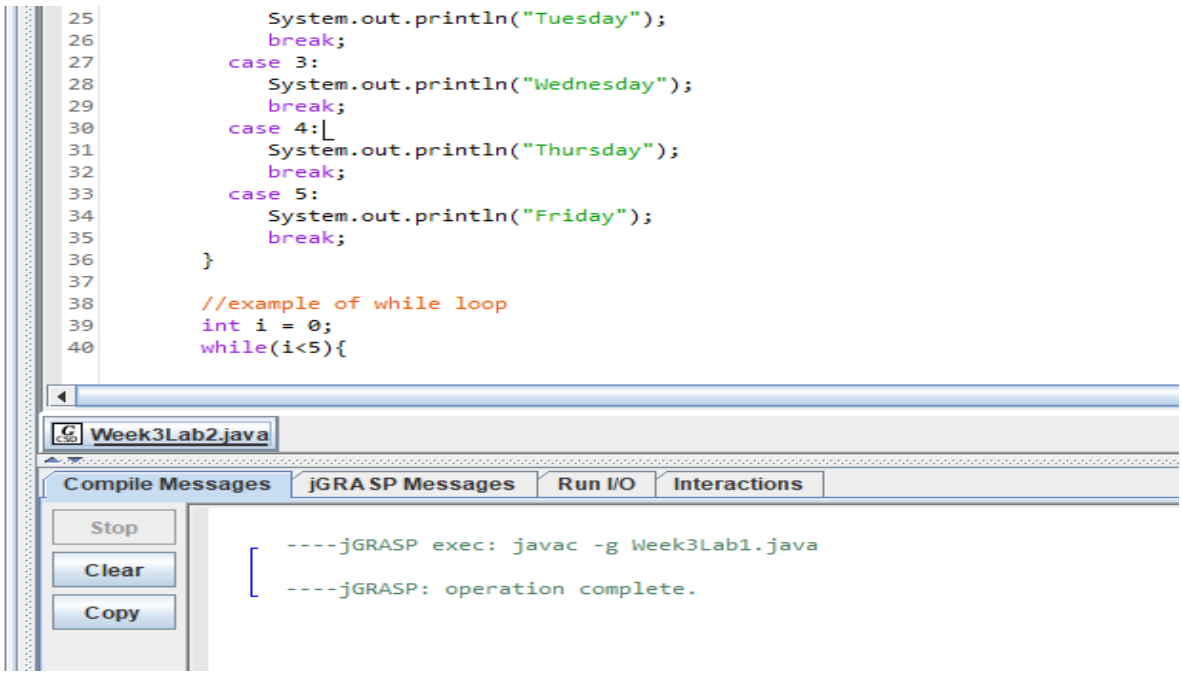
```
/* DSA Week 3 Lab 2 */

public class Week3Lab2 {

    public static void main(String []args) {

        //example of if else statement
        int x = 2;
        int y = 1;

        if(x > y){
            System.out.println("x is greater than y");
        }else{
            System.out.println("y is greater than x");
        }

        //example of switch statement
        int day = 1;

        switch(day){
            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;
        }

        //example of while loop
        int i = 0;
        while(i<5){
            System.out.println(i);
            i++;
        }

        //example of for loop
        for(int j = 0; j<5; j++){
            System.out.println(j);
        }
    }
}
```

Step 3: Go to **file/save** to save your java program as **Week3Lab2**

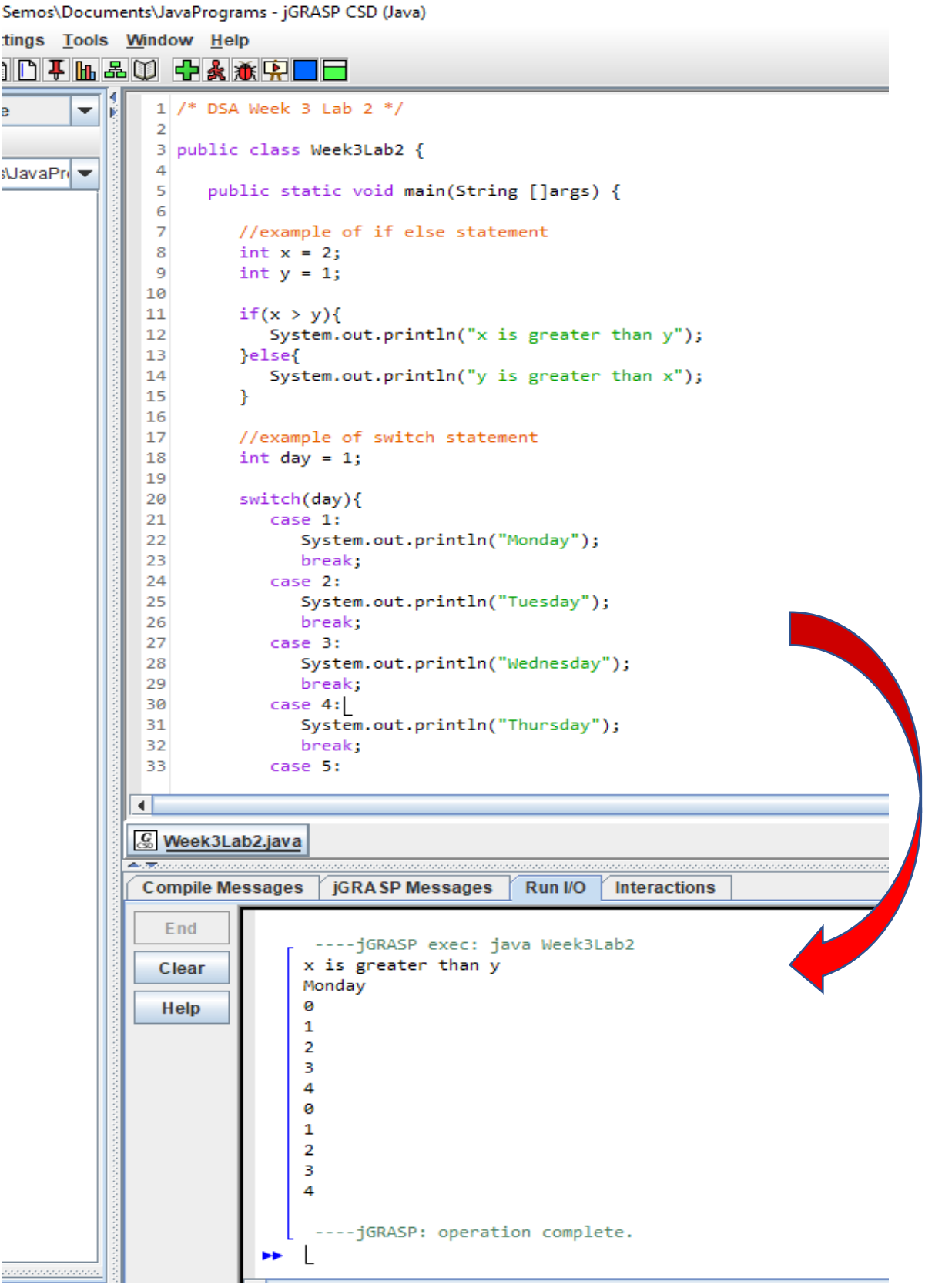
```java
/* DSA Week 3 Lab 2 */

public class Week3Lab2 {

   public static void main(String []args) {

      //example of if else statement
      int x = 2;
      int y = 1;

      if(x > y){
         System.out.println("x is greater than y");
      }else{
         System.out.println("y is greater
      }

      //example of switch statement
      int day = 1;

      switch(day){
         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;
      }

      //example of while loop
      int i = 0;
      while(i<5){
        System.out.println(i);
        i++;
      }

      //example of for loop
      for(int j = 0; j<5; j++){
        System.out.println(j);
      }
   }
}
```



Step 4: After saving, compile (Go to **Build/Compile**) to check for syntax errors. If compile is successfully then run (Go the **Build/Run**) your program. **Below is example of the successful compiled program.**



Step 5: Wait for the Java program to compile. If you see the message in the window below, it has successfully compiled.



Step 6: Week3Lab2 Completed! Save your file for future Java lab activities.