INTRODUCTION TO JAVA LANGUAGE FEATURES – LAB 01

EC 5080

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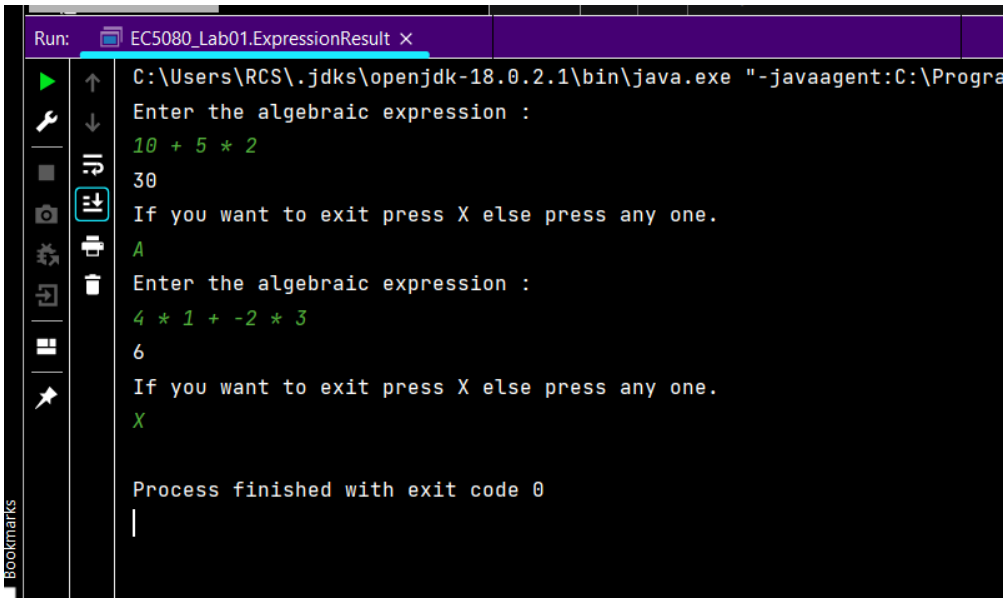
Question 01

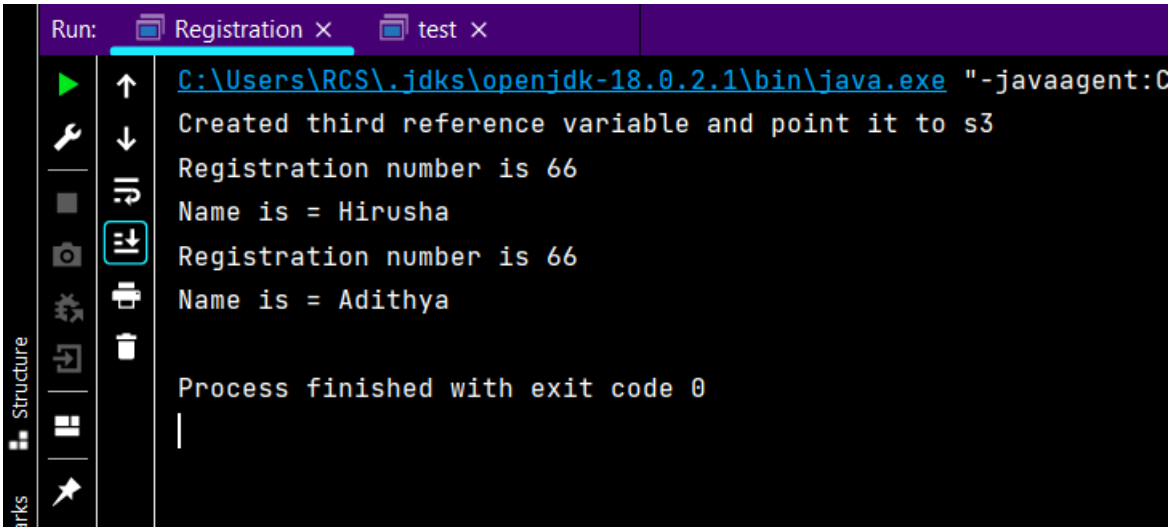
```
package EC5080_Lab01;
import java.util.Scanner;
public class ExpressionResult {
   Scanner scanner = new Scanner(System.in);
   char algebraicExpression;
   //Constructor.
   public void ExpressionResult(){
      algebraicExpression = '=';
   }

   /**
    * getAlgebraicExpression method use to get algebraic expression from the user.
    */
   public void getAlgebraicExpression(){
      ExpressionResult obj01 = new ExpressionResult();
      System.out.println("Enter the algebraic expression : ");
      String expression = scanner.nextLine();
     // String[] array = expression.split("[ ]");
      toString(evaluate(expression));
   }


   public static int evaluate(String expression){
      String[] array = expression.split("[ ]");
      int result = Integer.parseInt(array[0]);
      //String operation = array[1];
      int operandIndex = 2;
      int opratorIndex = 1;
      //int[] resultArray;
      int operand;
      String operator = null;
      while(operandIndex < array.length){
         operand = Integer.parseInt(array[operandIndex]);
         if(opratorIndex < array.length)
         {
            operator = array[opratorIndex];
         }
         operandIndex+=2;
         //opratorIndex+=2;
if(array[opratorIndex].equals("+")){
         result+=operand;
      }
      else if(array[opratorIndex].equals("-")){
         result=result-operand;
      }
```

```
            else if(array[opratorIndex].equals("*")){
                result=result*operand;
            }
            else if(array[opratorIndex].equals("/")){
                result=result/operand;
            }
            opratorIndex+=2;
        }
        return result;
    }

    /**
     *
     */


    public void toString(int result){
        System.out.println(String.valueOf(result));
    }

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

        char methodRunning = 'A';
        while (methodRunning != 'X'){
            ExpressionResult obj03 = new ExpressionResult();
            obj03.getAlgebraicExpression();
            System.out.println("If you want to exit press X else press any one.");
            methodRunning = scanner.next().charAt(0);
        }
    }
}
```



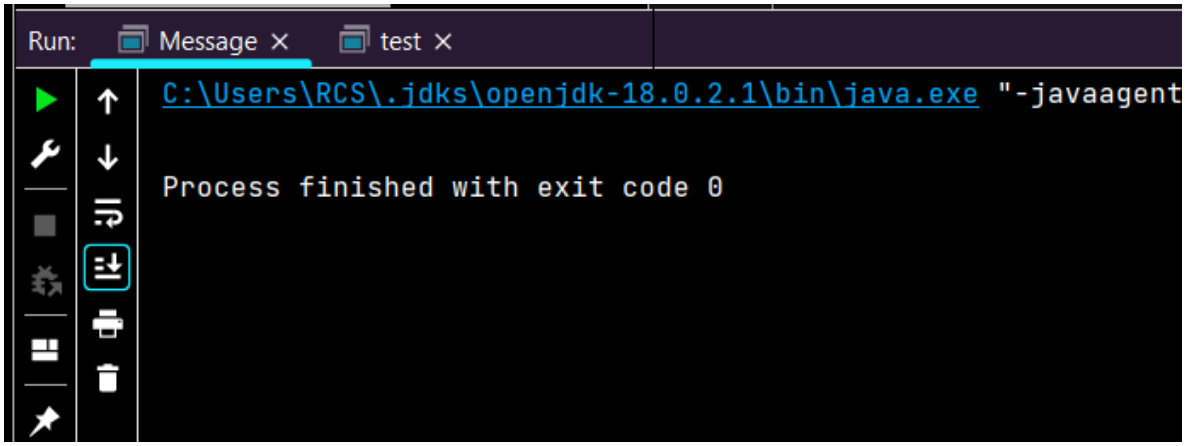
Question 02

02.



03.

a



b.

```
public class Message {
   String message;
   public Message(String msg) {
      this.message = msg;
   }
   public void display() {
      print(this.message);
   }
   public void print(String message) {
      Message msg = new Message("The message: " + message);
   }
   public static void main(String[] args) {
      Message msg_1 = new Message("SC1");
      Message msg_2 = new Message("SC2");
      msg_1 = msg_2;
      msg_1.display();
      new Message("SC3").display();
      msg_1 = null;
      System.gc();
   }
   public void finalize() {
      System.out.println("'" + this.message + "'" + " successfully garbage collected");
   }
}
```

Reason:
The created objects were deleted or the objects were not be crate and assign.