



Lab Task

Subject: Elementary Programming

المحاضر: على إسهاعيل مصطفي دوملو

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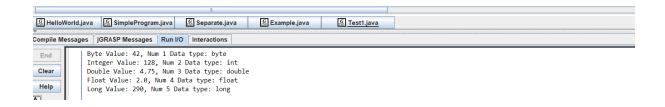
رقم الجامعة: 443058333

الجنسية: بنغلاديش

الجهة: الحاسب آلي

رقم الشعبة: 4476

Introductory Task Part 1



Part 2

```
public class Test2{
    public static void main (String[] args){
      int initialValue = 10;
       int changingValue = initialValue;
       changingValue *=3;
   final double PI = 3.14159;
       //PI = 3.14; Compiler Error
      System.out.println("Intital Value: " + initialValue);
System.out.println("Changing Value: " +changingValue);
       System.out.println("PI Value:" +PI);
       byte byteValue = 3;
       short shortValue = 1;
       long longValue = 10000;
      System.out.println("Byte Value: " +byteValue);
System.out.println("Short Value: " +shortValue);
       System.out.println("Long Value: " +longValue);
       byteValue +=20;
       shortValue *=2;
       longValue -=1000;
       System.out.println("Modified Value");
      System.out.println("Byte Value: " +byteValue);
System.out.println("Short Value: " +shortValue);
       System.out.println("Long Value: " +longValue);
 G HelloWorld.java

SimpleProgram.java

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Compile Messages
                      jGRASP Messages
                                               Run I/O
                                                           Interaction
                     ----jGRASP exec: java Test2
  End
                    Intital Value: 10
  Clear
                    Changing Value: 30
                    PI Value:3.14159
  Help
                    Byte Value: 3
                    Short Value: 1
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                    Long Value: 10000
                    Modified Value
                    Byte Value: 23
                    Short Value: 2
                    Long Value: 9000
```

Part 3

```
public class Test3 {
    public static void main(String[] args) {
        int num1 = 20;
        int num2 = 7;
        int sum = num1 + num2;
        int difference = num1 - num2;
        int product = num1 * num2;
        int division = num1 / num2;
        num1 += 10;
        int combinedExpression = num1 * num2 + 5;
        System.out.println("Sum of num1 and num2: " + sum);
        System.out.println("Difference between num1 and num2: " + difference);
        System.out.println("Product of num1 and num2: " + product);
        System.out.println("Division of num1 by num2: " + division);
        System.out.println("Updated value of num1: " + num1);
        System.out.println("Combined expression: " + combinedExpression);
}
G HelloWorld.java
                  SimpleProgram.java
                                         Separate.java
                                                             G Example.java
Compile Messages | jGRASP Messages
                                 Run I/O
                                          Interactions
 End
               ----jGRASP exec: java Test3
 Clear
              Sum of num1 and num2: 27
              Difference between num1 and num2: 13
```

Product of num1 and num2: 140 Division of num1 by num2: 2

----jGRASP: operation complete.

Updated value of num1: 30 Combined expression: 215

Help

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Part 4

```
public class Test4{
   public static void main(String [] args){
      int num1 = 10;
      int num2 = 20;
      int num3 = 35;
      int num4 = 40;
      int sum = num1 + num2 + num3 + num4;
      double average =(double) sum / 4;
      System.out.println("The average of four number is:" +average);
   }
}
G HelloWorld.java SimpleProgram.java
                                         Separate.java
                                                              G Example.java
                                                                                   G Test
Compile Messages | jGRASP Messages | Run I/O | Interactions
  End
                ----jGRASP: operation complete.
 Clear
                ----jGRASP exec: java Test4
 Help
              The average of four number is:26.25
Ą
```

----jGRASP: operation complete.

```
bublic class Test5{
   public static void main (String [] args){
       int x = 5;
int y = x;
       y = ++x;

System.out.println("The result of after the pre-increment\nThe value of x is :" +x +" and the value of y is: "+y);
       System.out.println("The result of after the post-increment n The value of x is: " +x +" and the value of y is: "+y);
HelloWorld.java SimpleProgram.java Separate.java
                                                                                        G Test1.java
                                                                                                              GSD Test2.java
                                                                                                                                   G Test3.
                                                                  Example.java
Compile Messages | jGRASP Messages | Run I/O | Interactions
                 ----jGRASP: operation complete.
 Clear
                  ---jGRASP exec: java Test5
 Help
                The result of after the pre-increment
                The value of x is :6 and the value of y is: 6
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               The result of after the post-increment
The value of x is :7 and the value of y is: 6
```

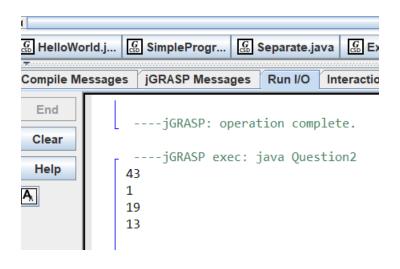
```
public class Test6{
   public static void main (String[] args){
       int a = 8;
      int b = a;
      b = --a;
      System.out.println("After pre-decrement")
      System.out.println("a: " +a);
      System.out.println("b: " +b);
      b = a - -;
      System.out.println("After post-decrement"
      System.out.println("a: " +a);
      System.out.println("b: " +b);
}
HelloWorld.java SimpleProgram.j...
                                      Separate.
Compile Messages | jGRASP Messages | Run I/O
                                           Interac
  End
                ----jGRASP exec: java Test6
 Clear
              After pre-decrement
               a: 7
 Help
              b: 7
              After post-decrement
              a: 6
              b: 7
```

Answer to the Question No: 1

```
public class Question1{
   public static void main(String[] args){
   int num1 = 40;
   int num2 = 10;
   int sum = num1 + num2;
   int multipication = num1*num2;
   int subtract = num1 - num2;
   double divison = (double) num1/num2;
   int remainder = num1 % num2;
   System.out.println("Sum: "+sum);
   System.out.println("Multipication: "+multipication);
   System.out.println("Subtract: "+subtract);
   System.out.println("Divison: "+divison);
   System.out.println("Remainder: "+remainder);
   }
HelloWorld.java SimpleProgra...
                                  Separate.java
                                                   G Examp
Compile Messages
                 jGRASP Messages
                                   Run I/O
                                           Interactions
               ----jGRASP: operation complete.
  End
 Clear
                ----jGRASP exec: java Question1
               Sum: 50
 Help
              Multipication: 400
              Subtract: 30
              Divison: 4.0
               Remainder: 0
```

Answer to the Question No: 2

```
bublic class Question2 {
   public static void main (String [] args){
      System.out.println(-5+8*6);
      System.out.println((55+9)%9);
      System.out.println(20+ -3*5/8);
      System.out.println(5+15/3*2-8%3);
   }
}
```



Answer to the Question No: 3

```
public class Question3{
   public static void main (String [] args){
      double item1 = 20;
      double item2 = 15.5;
      double item3 = 8.75;
      double item4 = 30.25;
      double item5 = 12.0;
      double discountPercentage = 15;
      double taxPercentage = 7.5;
      double sumBeforeDiscount = item1 + item2 + item3 + item4 + item5;
      double discountAmount = (sumBeforeDiscount/100)*discountPercentage;
      double totalCostAfterDiscount = sumBeforeDiscount - discountAmount;
      double taxAmount = (totalCostAfterDiscount/100)*taxPercentage;
      double finalTotalCost = totalCostAfterDiscount + taxAmount;
      System.out.println("Welcome to the Shopping Cart Calculator!");
      System.out.println("Item prices: $"+item1 +", $" +item2 +", $" +item3 +", $" +item4 +", $" +item5);
      System.out.println("Discount Percentage:" +discountPercentage +"%");
      System.out.println("Tax Percentage: " +taxPercentage + "%");
      System.out.println();
      System.out.println("Total cost before discount: $"+sumBeforeDiscount);
      System.out.println("Discount amount: $" +discountAmount);
      System.out.println("Total cost after discount: $"+totalCostAfterDiscount);
System.out.println("Tax amount: $"+taxAmount);
      System.out.println("Final toatl cost: $"+finalTotalCost);
}[
G HelloWorld...
                SimplePro... Separate.ja... Example.ja... Test1.java
                                                                                      G Test2.java
Compile Messages | jGRASP Messages
                                         Run I/O Interactions
                   ----jGRASP exec: java Question3
  End
                  Welcome to the Shopping Cart Calculator!
  Clear
                  Item prices: $20.0, $15.5, $8.75, $30.25, $12.0
                  Discount Percentage:15.0%
  Help
                 Tax Percentage: 7.5%
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                  Total cost before discount: $86.5
                  Discount amount: $12.975
                 Total cost after discount: $73.525
                 Tax amount: $5.514375
                  Final toatl cost: $79.039375
                   ----jGRASP: operation complete.
```