Group-A

1. What is the String class in Java? Is String a data type?

   - A string in Java is a non-primitive data type that is used to store a sequence of characters (text). Yes, a string is a data type that stores characters.

2. How can you make a String upper case or lower case in Java?

- We can make a sting uppercase using *toUppercase()* method. Similarly, *toLowerCase()* method is used for lowercase.

```
public class Upper{
    public static void main (String args[]){
        String name = "Tyler";
        System.out.println(name.toUpperCase());//prints name in all uppercase
         System.out.println(name.toLowerCase());//prints name in all lowercase
    }

}
```

```
Options
TYLER
tyler
```

3. Can you use String in the switch case in Java? Explain it briefly.

- Yes, we can use string in the switch case in Java if the data we are dealing with is also strings. For example:

```java
import java.util.Scanner;
public class Switch{
   public static void main(String args[]) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter Student's name");
      System.out.println("(Note: One name at time)");
      String name = sc.next();
       switch (name) {//The string of the case must match the passed string (upper or lower).
         case "RameshBhandari":
            System.out.println("The rank of Ramesh Bhandari is 3rd");//Here the data we are dealing with are also strings.
            break;
         case "BinodChalise":
            System.out.println("The rank of Binod Chalise is 1st");
            break;
         case "GaneshParajuli":
            System.out.println("The rank of Ganesh Parajuli is 2nd");
            break;
         default:
            System.out.println("Student not found");
            break;
    }
}
}
```

4. Explain different types of conditional statements in java.

-Java has the following conditional statements:

- If condition- specify a block of code to be executed, if a specified condition is true.
- Else condition- specify a block of code to be executed, if the same condition is false.
- Else if condition- to specify a new condition to test, if the first condition is false.
- Switch condition- specify many alternative blocks of code to be executed.

5. What is the value of the variable num after the following is

executed?

o int k = 5;

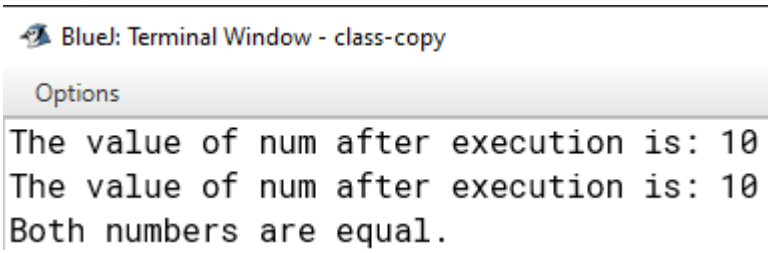
o int num = 0;

o int num1 = num + k * 2;

o int num2 = num + k * 2;

Are the values num1 and num2 equal after the last statement?

```java
public class Num{
    public static void main (String args[]){
        int k = 5;
        int num = 0;//Since there is no operation for num, it's value remains constant throughout the program
        int num1 = num + (k*2);
        int num2 = num + (k*2);
        System.out.println("The value of num after execution is: " + num1);
        System.out.println("The value of num after execution is: " + num1);
        if (num1==num2){
            System.out.println("Both numbers are equal.");
        }else{
            System.out.println("Both numbers are equal.");
        }
    }
}
```

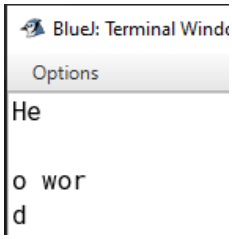


6. How do you split a string in Java?

-We can split a string using split[] method. Example:

```java
public class Split{
    public static void main (String args[]) {
        String str = "Hello world";
        String split[] = str.split("l",4);//Here the split method around matches of the given regular expression "l".
        for (String a: split)
            System.out.println(a);//it splits str form letter l to a new line.
    }
}
```

Output:



7. How do you check if two Strings are equal in Java?

- We can check whether two strings are equal using equals() method.

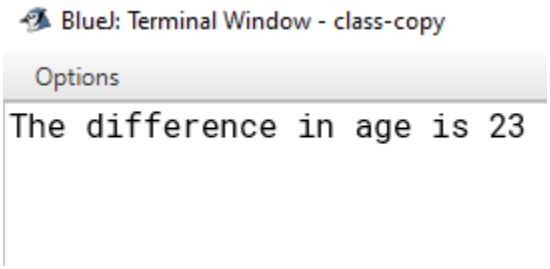
Group-B

1. Find the difference between Beth's age (57) and Tom's age (34).

- Code:

```
public class Diff{
    public static void main(String args[]){
        int beth=57, tom=34;
        int diff = beth - tom;
        System.out.println("The difference in age is " + diff);
    }
}
```

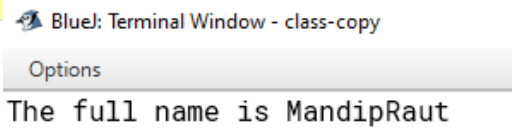
Output:



2. Develop a system to store your name as a variable.

-Code + Output:

```
public static void main (String args[]){
    String name, cast, fname;
    name = "Mandip";
    cast = "Raut";
    fname = name + cast;
    System.out.println("The full name is " + fname);
    }
}
```



3. Create the above java program in the java environment and then

modify the program to use the following statements. Note down the response to each. Do they differ from what you would expect?

- boolean result = true && true;
- boolean result = true && false || true;
- boolean result = false && false || true;
- boolean result = false && 0;
- boolean result = !(false) && true;
- boolean result = !(true && !(false && false));
- boolean result = (10 > 14) and (4 == 5);
- boolean result = true && 5;
- boolean result = (3 * 4) != (14 - 2) && ('C' >= 'D');

boolean result = (12 * 2) == (3 * 8);

- boolean result = (14 * 2) != (3 * 8);

- Code + Output:

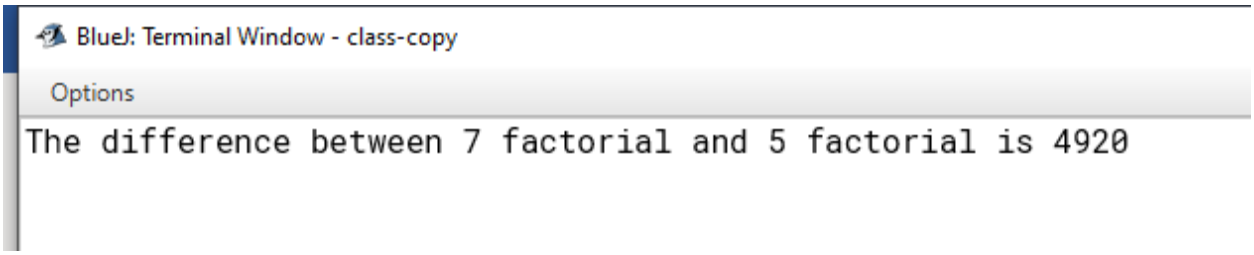
```
import java.util.Scanner;
public class Boolean{
public static void main (String args[]){
      Scanner sc = new Scanner(System.in);
    System.out.println("Enter A and B:");
    int a = sc.nextInt();//15
    int b = sc.nextInt();//10
System.out.println((a>10) && (b>5));
System.out.println((a>10) && (b<5) || (a>b));
System.out.println((a<10) && (b<5) || (a>b));
System.out.println((a<10) + " "+ a*0);
System.out.println(!(a<10) && (b>5));
System.out.println(!(a>10 && !(b<5 && b<5)));
System.out.println((10 > 14) && (4 == 5));
System.out.println((a>10) + " 5");
System.out.println((3 * 4) != (14 - 2) && ('a' >= 'b'));
System.out.println((12 * 2) == (3 * 8));
System.out.println((14 * 2) != (3 * 8));
 }
}
```

```
Enter A and B:
15
10
true
true
true
false 0
true
false
false
true 5
false
true
true
```

4. Find the difference between 7 factorial and 5 factorial.

Code + Output:

```
public class Factorial{
  public static void main(String[] args) {
    int num1=7, num2=5, fact1=1, fact2=1, diff;
    for (int i = 1; i <=num1; i++) {
      fact1=fact1*i;
    }
    for (int i = 1; i <=num2; i++) {
      fact2=fact2*i;
    }
    diff=fact1-fact2;
    System.out.println("The difference between 7 factorial and 5 factorial is " + diff);
  }
}
```



5. Complete the following questions by taking user input.

o Write a Java program that prompts a user for their last name and stores it in a variable named last_name.

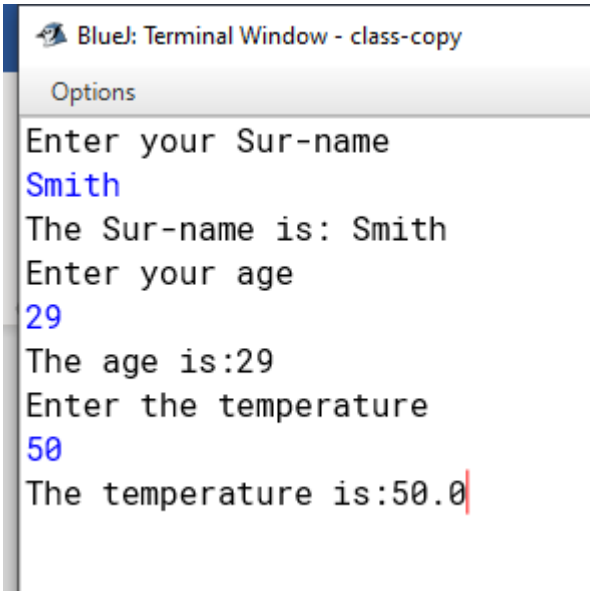
o Give an instruction that prompts a user for their age and stores it as an integer in a variable named age.

o Give an instruction that prompts a user for their temperature and stores it as a float in a variable named current_temperature.

-Code and Output:

-

```
public class promt{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter your Sur-name");
    String last_name = sc.next();
    System.out.println("The Sur-name is: " + last_name);
    System.out.println("Enter your age");
    int age = sc.nextInt();
    System.out.println("The age is:" + age);
    System.out.println("Enter the temperature");
    float current_temperature = sc.nextFloat();
    System.out.println("The temperature is:" + current_temperature);
}
}
```



6. Give a call to printf that is provided one string that displays the following address on three separate lines:

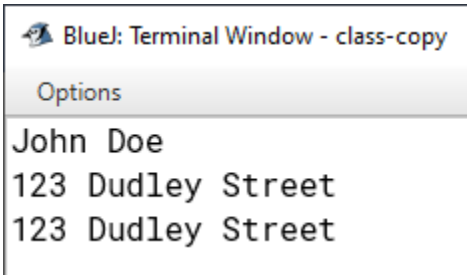
o John Doe

o 123 Dudley Street

o 123 Dudley Street

-Code and Output:

```java
public class Seperate{
    public static void main(String args[]){
        System.out.printf("%s\n%s\n%s\n", "John Doe", "123 Dudley Street", "123 Dudley Street");
    }
}
```



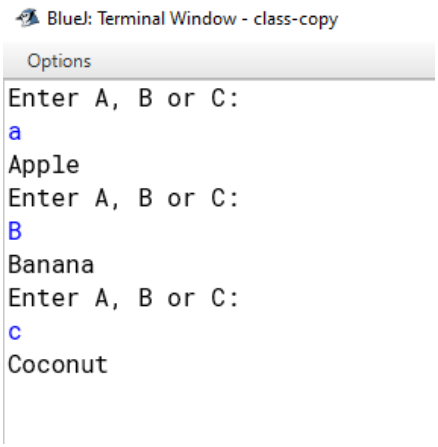
7. Write a java program in which:

a) The user enters either 'A', 'B', or 'C'. If 'A' is entered, the the program should display the word 'Apple'; if 'B' is entered, it displays 'Banana'; and if 'C' is entered, it displays 'Coconut'. Use nested if statements for this.

b) Repeat question (a) using an (if statement with "else if" pairs) instead.

- Code and Output:

```java
import java.util.Scanner;
public class Nested{
    public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter A, B or C:");
    String abc = sc.next();
    String A="A",B="B",C="C", a="a", b="b", c="c";
    if (abc.equals(A) || abc.equals(a)){
        System.out.println("Apple");
    }else if (abc.equals(B) || abc.equals(b)){
        System.out.println("Banana");
    }else if (abc.equals(C) || abc.equals(c)){
        System.out.println("Coconut");
    }else{
        System.out.println("Enter Correct Character.");
    }
   }
}
```

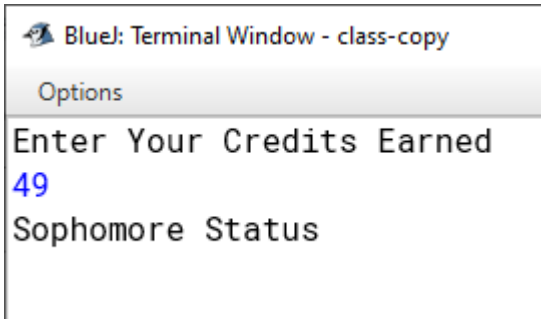


c) A student enters the number of college credits earned. If the number of credits is greater than or equal to 90, 'Senior Status' is displayed; if greater than or equal to 60, 'Junior Status' is displayed; if greater than or equal to 30, 'Sophomore Status' is displayed; else, 'Freshman Status' is displayed.

- Code and Output:

```java
import java.util.Scanner;
public class Credit{
    public static void main(String args[]){
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Your Credits Earned");
        int credit= sc.nextInt();
        if (credit>=90 && credit<=120){
            System.out.println("Senior Status");
        }else if (credit>=60 && credit<90){
            System.out.println("Junior Status");
        }else if (credit>=30 && credit<60){
            System.out.println("Sophomore Status");
        }else if (credit<30 && credit>=0){
            System.out.println("Freshman Status");
        }else{
            System.out.println("Enter Valid Credit");

        }
    }
}
```

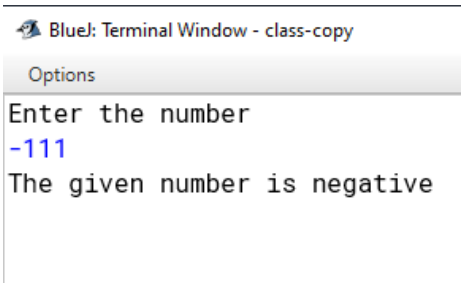


Group-C

1. Create a Java software that will ask the user for a number and then display whether it is positive or negative.

-Code and Output:

```java
import java.util.Scanner;
public class Positive{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number");
        float num = sc.nextFloat();
        if (num>0){
           System.out.println("The given number is positive");
        }else if (num<0){
           System.out.println("The given number is negative");
        }else{
           System.out.println("The given number is zero");
        }
    }
}
```

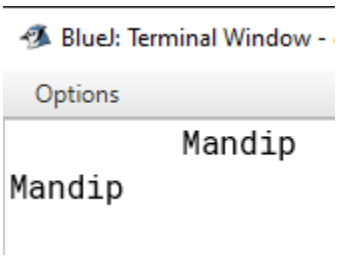


2. Your name left justified 15 spaces. [Formatted Output]

3. Your name right justified 15 spaces. [Formatted Output]

-Code and Output:

```java
public class Justified{
    public static void main (String args[]){
       String name="Mandip";
       System.out.printf("%15s\n", name);//adds 15 spaces at left including the name's letters.
       System.out.printf("%-15s", name);//adds 15 spaces at right including the name's letters.
    }
}
```



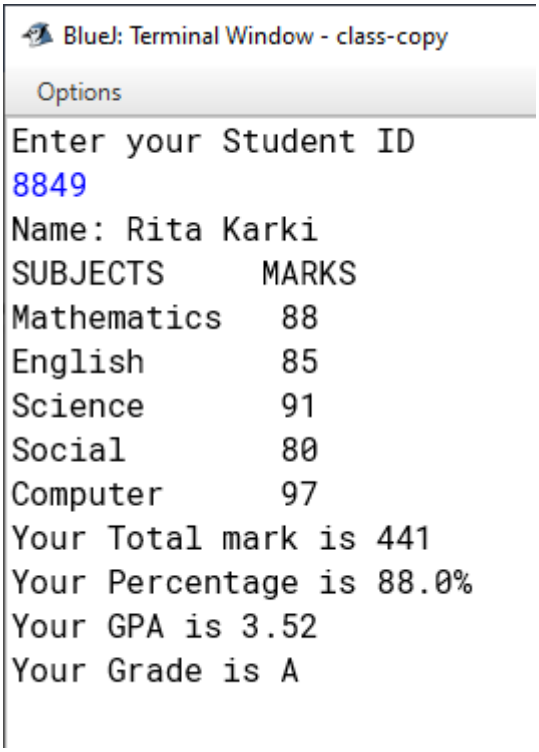
4. There were a bunch of students who were curious about their total marks, percentage, and grade using the marks from five subjects as input. Develop a system to help them find their grades.

- Code and Output:

```
import java.util.Scanner;
public class Grade5{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter your Student ID");
        int id= sc.nextInt();
        int total, m1, m2, m3, m4, m5;
        float percentage, grade;
        if (id==8848){
            System.out.println("Name: Ramesh Acharya");
            System.out.println("SUBJECTS    "+" MARKS");
            System.out.println("Mathematics   "+ (m1 = 80)   );
            System.out.println("English       "+ (m2 = 67)   );
            System.out.println("Science       "+ (m3 = 79)   );
            System.out.println("Social        "+ (m4 = 65)   );
            System.out.println("Computer      "+ (m5 = 77)   );
            System.out.println("Your Total mark is " + (total=m1+m2+m3+m4+m5));
            System.out.println("Your Percentage is "+ (percentage =total/5) +"%");
            System.out.printf("Your GPA is "+ "%.2f\n",(grade=(percentage/100)*4));
                if (grade>=3.6 && grade<=4.0){
                    System.out.println("Your Grade is A+");
                }else if (grade>=3.2 && grade<3.6){
                    System.out.println("Your Grade is A");
                }else if (grade>=2.8 && grade<3.2){
                    System.out.println("Your Grade is B+");
        }else if (grade>=2.4 && grade<2.8){
            System.out.println("Your Grade is B");
        }else if (grade>=2.0 && grade<2.4){
            System.out.println("Your Grade is C+");
        }else if (grade>=1.6 && grade<2.0){
            System.out.println("Your Grade is C");
        }else if (grade>=1.2 && grade<1.6){
            System.out.println("Your Grade is D+");
        }else if (grade>=0.8 && grade<1.2){
            System.out.println("Your Grade is D");
        }else if (grade>=0 && grade<0.8){
            System.out.println("You failed");
        }
    }else if (id==8849){
        System.out.println("Name: Rita Karki ");
        System.out.println("SUBJECTS    "+" MARKS");
        System.out.println("Mathematics   "+ (m1 = 88)   );
        System.out.println("English       "+ (m2 = 85)   );
        System.out.println("Science       "+ (m3 = 91)   );
        System.out.println("Social        "+ (m4 = 80)   );
        System.out.println("Computer      "+ (m5 = 97)   );
        System.out.println("Your Total mark is " + (total=m1+m2+m3+m4+m5));
        System.out.println("Your Percentage is "+ (percentage =total/5) +"%");
        System.out.printf("Your GPA is "+ "%.2f\n",(grade=(percentage/100)*4));
```

```
            if (grade>=3.6 && grade<=4.0){
                System.out.println("Your Grade is A+");
            }else if (grade>=3.2 && grade<3.6){
                System.out.println("Your Grade is A");
            }else if (grade>=2.8 && grade<3.2){
                System.out.println("Your Grade is B+");
            }else if (grade>=2.4 && grade<2.8){
                System.out.println("Your Grade is B");
            }else if (grade>=2.0 && grade<2.4){
                System.out.println("Your Grade is C+");
            }else if (grade>=1.6 && grade<2.0){
                System.out.println("Your Grade is C");
            }else if (grade>=1.2 && grade<1.6){
                System.out.println("Your Grade is D+");
            }else if (grade>=0.8 && grade<1.2){
                System.out.println("Your Grade is D");
            }else if (grade>=0 && grade<0.8){
                System.out.println("You failed");
            }
}else if (id==8850){
```

```
System.out.println("Name: Rakesh Khadka ");
System.out.println("SUBJECTS    "+" MARKS");
System.out.println("Mathematics   "+ (m1 = 95)   );
System.out.println("English       "+ (m2 = 85)   );
System.out.println("Science       "+ (m3 = 89)   );
System.out.println("Social        "+ (m4 = 80)   );
System.out.println("Computer      "+ (m5 = 99)   );
System.out.println("Your Total mark is " + (total=m1+m2+m3+m4+m5));
System.out.println("Your Percentage is "+ (percentage =total/5) +"%");
System.out.printf("Your GPA is "+ "%.2f\n",(grade=(percentage/100)*4));
    if (grade>=3.6 && grade<=4.0){
        System.out.println("Your Grade is A+");
    }else if (grade>=3.2 && grade<3.6){
        System.out.println("Your Grade is A");
    }else if (grade>=2.8 && grade<3.2){
        System.out.println("Your Grade is B+");
    }else if (grade>=2.4 && grade<2.8){
        System.out.println("Your Grade is B");
    }else if (grade>=2.0 && grade<2.4){
        System.out.println("Your Grade is C+");
            }else if (grade>=1.6 && grade<2.0){
                System.out.println("Your Grade is C");
            }else if (grade>=1.2 && grade<1.6){
                System.out.println("Your Grade is D+");
            }else if (grade>=0.8 && grade<1.2){
                System.out.println("Your Grade is D");
            }else if (grade>=0 && grade<0.8){
                System.out.println("You failed");
            }
    }else {
        System.out.println("The ID dont exists");
    }
}
}
```



5. Write a Java program that allows the user to enter two integer values and displays the results with the following arithmetic operators applied to them. For example, if the user enters the values 7 and 5, the output would be:

o Addition: 7 + 5 = 12

o Subtraction: 7 – 5 = 2

o Multiplication: 7 * 5 = 35

o Division: 7 / 5 = 1.40

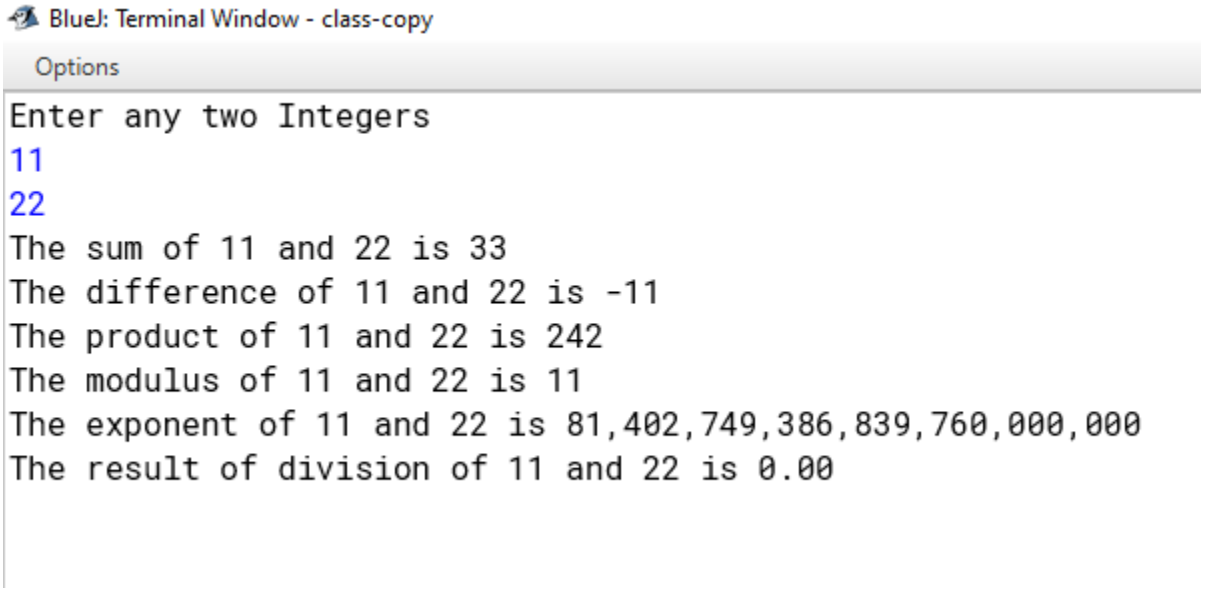
o Modulus: 7 % 5 = 2

o Exponentiation: 7 ** 5 = 16,807

[All floating-point results should be displayed with two decimal places of accuracy and with commas where appropriate.]

- Code and Output:

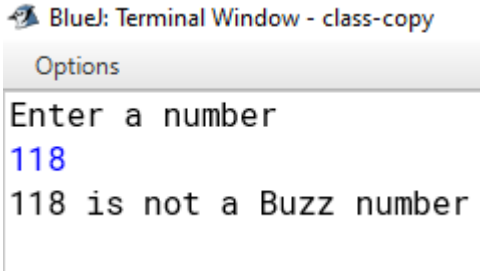
```java
import java.util.Scanner;
public class Integer{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter any two Integers");
        int X = sc.nextInt();
        int Y = sc.nextInt();
        int sum=X+Y, sub=X-Y, mult=X*Y, mod=X%Y;
        float div= (X / Y);
        System.out.println("The sum of " + X + " and " + Y + " is " + sum);
        System.out.println("The difference of " + X + " and " + Y + " is " + sub);
        System.out.println("The product of " + X + " and " + Y + " is " + mult);
        System.out.println("The modulus of " + X + " and " + Y + " is " + mod);
        System.out.printf("The exponent of " + X + " and " + Y + " is "+ "%,.0f\n",Math.pow(X, Y));
        /* the Math.pow function returns X^Y.The "%,.0f" gives "," in the appropriate areas and .0f
        System.out.printf("The result of division of " + X + " and " + Y + " is " + "%.2f",div);
    }
}
```



6. Let's create a java program to input a number and check whether it is a Buzz number or not. A number is said to be a buzz number when it ends with 7 or is divisible by 7.

- Code and output:

```java
import java.util.Scanner;
public class Buzz{
    public static void main (String args[]){
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        int num=sc.nextInt();
        if (num%7==0 || num%10==7){
            System.out.println(num +" is a Buzz number");
        }else{
            System.out.println(num +" is not a Buzz number");
        }
    }
}
```



7. Let’s take an example program where we will take the age of the user as input and find whether he is a child, adult, or senior based on age. Using Java if-else-if ladder statements.

- Code and Output:

```
import java.util.Scanner;
public class Age{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter your Age");
        int age= sc.nextInt();
        int c=15-age,d=25-age,e=55-age;
        if (age>0 && age<=14){
            System.out.println("You are a child.");
            if (c==1){
                System.out.println("You got " +c+ " year near to youthage, "+d+" years to adulthood and "+e+ " years to oldage" );
            }else{
                System.out.println("You got " + c + "years near to youthage, "+d+" years to adulthood and "+e+ " years to oldage");
            }
        }else if (age>14 && age<=24){
            System.out.println("You are a youth");
            if (d==1){
                System.out.println("You got " +d+" year to adulthood and "+e+ " years to oldage" );
            }else{
                System.out.println("You got " +d+" years to adulthood and "+e+ " years to oldage");
            }
        }else if (age>24 && age<=55){
            System.out.println("You are an adult");
            if (e==1){
                System.out.println("You got " +e+ " year to oldage" );
            }else{
                System.out.println("You got " +e+ " years to oldage");
            }
        }else if (age>55){
            System.out.println("You are a senior");
        }else{
            System.out.println("Enter age correctly");
        }
    }
}
```


BlueJ: Terminal Window - class-copy

Options

```
Enter your Age
19
You are a youth
You got 6 years to adulthood and 36 years to oldage
```

8. Bruno Mars just appeared for his examination and got 75%. He goes to his tutor and asks about his grade. Now being a tutor, you need to develop a program that tells his grade.

- Code and Output:

```
public class Bruno{
    public static void main(String args[]){
        float gpa=((75*4)/100);
        System.out.println("Your GPA is :" +gpa);
         if (gpa>=3.6 && gpa<4){
            System.out.println("Your Grade is A+");
        }else if (gpa>=3.2 && gpa<3.6){
            System.out.println("Your Grade is A");
        }else if (gpa>=2.8 && gpa<3.2){
            System.out.println("Your Grade is B+");
        }else if (gpa>=2.4 && gpa<2.8){
            System.out.println("Your Grade is B");
        }else if (gpa>=2.0 && gpa<2.4){
            System.out.println("Your Grade is C+");
        }else if (gpa>=1.6 && gpa<2.0){
            System.out.println("Your Grade is C");
        }else if (gpa>=1.2 && gpa<1.6){
            System.out.println("Your Grade is D+");
        }else if (gpa>=0.8 && gpa<1.2){
            System.out.println("Your Grade is D+");
        }else if (gpa>=0 && gpa<0.8){
            System.out.println("You Failed");
        }
    }
}
```

BlueJ: Terminal Window - class-copy

Options

```
Your GPA is :3.0
Your Grade is B+
```

9. If a customer wants to take a t-shirt from your shop and he wants to buy a t-shirt and feeds in his/her size. Then print the availability as per their preference. [Using Switch Case Statement].

- Code and Output:

```
import java.util.Scanner;
public class Switch2{
   public static void main(String args[]) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter your size. Available size 34 to 44.");
      int size = sc.nextInt();
      String maroon="maroon", white="white", black="black", purple="purple";
      switch (size) {
         case 34,35:
            System.out.println("Your size is XXS");
            Scanner c1 = new Scanner(System.in);
            System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
            String color = c1.next();
            if (color.equals(maroon) || color.equals(white) || color.equals(black) || color.equals(purple)){
                System.out.println("Color available");
                System.out.println("Enter quantity");
                int num = c1.nextInt();
                System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color+" colored "+"Tshirt will be delivered soon to
            }else{
                System.out.println("Sorry color not available");
            }
            break;
```

```
   case 36,37:
      System.out.println("Your size is XS");
      Scanner c2 = new Scanner(System.in);
      System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
      String color2 = c2.next();
      if (color2.equals(maroon) || color2.equals(white) || color2.equals(black) || color2.equals(purple)){
          System.out.println("Color available");
          System.out.println("Enter quantity");
          int num = c2.nextInt();
          System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color2+" colored "+"Tshirt will be delivered soon t
      }else{
          System.out.println("Sorry color not available");
      }
      break;
   case 38,39:
      System.out.println("Your size is S");
      Scanner cu3 = new Scanner(System.in);
      System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
      String color3 = cu3.next();
      if (color3.equals(maroon) || color3.equals(white) || color3.equals(black) || color3.equals(purple)){
          System.out.println("Color available");
          System.out.println("Enter quantity");
          int num = cu3.nextInt();
          System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color3+" colored "+"Tshirt will be delivered soon
      }else{
          System.out.println("Sorry color not available");
      }
      break;
   case 40,41:
      System.out.println("Your size is M");
      Scanner cu4 = new Scanner(System.in);
      System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
      String color4 = cu4.next();
      if (color4.equals(maroon) || color4.equals(white) || color4.equals(black) || color4.equals(purple)){
          System.out.println("Color available");
          System.out.println("Enter quantity");
          int num = cu4.nextInt();
          System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color4+" colored "+"Tshirt will be delivered soon
      }else{
          System.out.println("Sorry color not available");
      }
      break;
   case 42,43:
      System.out.println("Your size is L");
      Scanner cu5 = new Scanner(System.in);
```

```
   System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
   String color5 = cu5.next();
   if (color5.equals(maroon) || color5.equals(white) || color5.equals(black) || color5.equals(purple)){
       System.out.println("Color available");
       System.out.println("Enter quantity");
       int num = cu5.nextInt();
       System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color5+" colored "+"Tshirt will be delivered soon t
   }else{
       System.out.println("Sorry color not available");
   }
   break;
case 44:
   System.out.println("Your size is XL");
   Scanner cu6 = new Scanner(System.in);
   System.out.println("Available colors: maroon, white, black and purple. Enter your color preference.");
   String color6 = cu6.next();
   if (color6.equals(maroon) || color6.equals(white) || color6.equals(black) || color6.equals(purple)){
       System.out.println("Color available");
       System.out.println("Enter quantity");
       int num = cu6.nextInt();
       System.out.println("Thankyou for your order. "+num+", "+size+" sized "+color6+" colored "+"Tshirt will be delivered soon t
```

```
           }else{
               System.out.println("Sorry color not available");
           }
           break;
       default:
           System.out.println("Sorry, your size is currently not available");
           break;
   }
}
}
```

BlueJ: Terminal Window - class-copy

Options

```
Enter your size. Available size 34 to 44.
39
Your size is S
Available colors: maroon, white, black and purple. Enter your color preference.
black
Color available
Enter quantity
5
Thankyou for your order. 5, 39 sized black colored Tshirt will be delivered soon to you.
```

Group-D

1. Let's create a printing application program where we will take the number of copies to be printed as input from the user and then prints the price per copy and the total price for the printing copies. The chart price to print the number of copies is given below:

- 0 – 99 : $0.30 per copy
- 100 – 499 : $0.28 per copy
- 500 – 799 : $0.27 per copy
- 800 – 1000 : $0.26 per copy
- over 1000 : $0.25 per copy

- Code and Output:

```
import java.util.Scanner;
public class Printing{
    public static void main(String args[]){
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter no. of copies to print.");
        int num = sc.nextInt();
        if (num>0 && num<=99){
            System.out.println("0 – 99 : $0.30 per copy");
            double c1= (num * 0.30);
            System.out.printf("Your total cost is: $"+"%.2f\n",c1);
        }else if (num>99 && num<=499){
            System.out.println("0 – 99 : $0.30 per copy");
            System.out.println("100 – 499 : $0.28 per copy");
            double c1= (99 * 0.30);
            int num1=num-99;
            double c2= num1*0.28;
            System.out.printf("Your total cost is: $"+"%.2f\n",(c1+c2));
        }else if (num>499 && num<=799){
            System.out.println("0 – 99 : $0.30 per copy");
            System.out.println("100 – 499 : $0.28 per copy");
            System.out.println("500 – 799 : $0.27 per copy");
            double c1= (99 * 0.30);
            double c2= (400 * 0.28);
            int num1= num-499;
            double c3= num1*0.27;
```

```
    System.out.printf("Your total cost is: $"+"%.2f\n",(c1+c2+c3));
}else if (num>799 && num<=1000){
    System.out.println("0 – 99 : $0.30 per copy");
    System.out.println("100 – 499 : $0.28 per copy");
    System.out.println("500 – 799 : $0.27 per copy");
    System.out.println("800 – 1000 : $0.26 per copy");
    double c1= (99 * 0.30);
    double c2= (400*0.28);
    double c3= (300*0.27);
    int num1= num-799;
    double c4= num1*0.26;
    System.out.printf("Your total cost is: $"+"%.2f\n",(c1+c2+c3+c4));
}else if (num>1000){
    System.out.println("0 – 99 : $0.30 per copy");
    System.out.println("100 – 499 : $0.28 per copy");
    System.out.println("500 – 799 : $0.27 per copy");
    System.out.println("800 – 1000 : $0.26 per copy");
    System.out.println("over 1000 : $0.25 per copy");
    double c1= (99 * 0.30);
    double c2= (400*0.28);
    double c3= (300*0.27);
    double c4= (201*0.26);
    int num1=num-1000;
    double c5= num1*0.25;
    System.out.printf("Your total cost is: $"+ "%.2f\n",(c1+c2+c3+c4+c5));
        }
    }
}
```

BlueJ: Terminal Window - class-copy

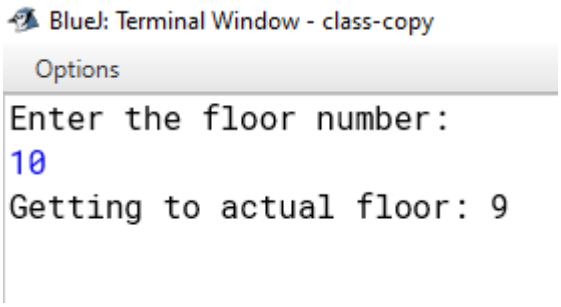
Options

```
Enter no. of copies to print.
1500
0 – 99 : $0.30 per copy
100 – 499 : $0.28 per copy
500 – 799 : $0.27 per copy
800 – 1000 : $0.26 per copy
over 1000 : $0.25 per copy
Your total cost is: $399.96
```

2. Follow the simulation of Floor example from lecture slide and develop a system where you need to ask user the floor number. Also determine whether the floor is actual floor or not.

- Code and Output:

```
import java.util.Scanner;
public class Floor{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the floor number:");
    int floor=sc.nextInt();
    int actualfloor=floor-1;
    if (floor==0){
        System.out.println("Getting to ground floor");
    }else if (floor>=1 && floor<=10){
        System.out.println("Getting to actual floor: " + actualfloor);
    }
}
}
```



3. [Scenario] You're waiting at a station and the announcer has just broadcast that your train is going to be 13445 seconds late. You need to work out in understandable terms what that means. You assume this is going to be quite a long time so you whip out your laptop to write a program to convert the seconds into hours, minutes and seconds, aiming to maximize readability by giving priority to the largest units, i.e. the resulting seconds and minute's values must not be greater than 60.

You will need four variables to hold: the total number of seconds; the number of hours; the number of minutes; and the number of remaining seconds. The example output should look something like this:

13442 Seconds is: 3 Hours, 44 Minutes and 5 Seconds.

- Code and Output:

```
import java.util.Scanner;
public class Time{
public static void main (String args[]){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the seconds:");
    int sec = sc.nextInt();
    double hour=sec/3600;
    int min1=sec%3600;
    float min=min1/60;
    float sec1=min1%60;
    System.out.printf(sec+" Seconds is: " + "%.0f", hour);
    System.out.printf(" Hours " + "%.0f", min);
    System.out.printf(" Minutes and "+"%.0f",sec1);
    System.out.printf(" Seconds." + "\n");
```