CSCI 1200 Introduction to Computing
Recitation 5 Java Programming

Two operators / and % - under the context of integer division

m / n : m divided by n
m % n: the remainder after m is divided by n

For example: 7 / 2 =3, 7 % 2=1

Equality/Relational/Logical Operators – section 3.2 & section 3.4

1) Equality Operators: = =, !=
2) Relational Operators: <, <=, >, >=
3) Logical Operators: !, &&, ||

Operator	Description	Example	Result
!	Logical NOT	! a	true if *a* is false and false if *a* is true
&&	Logical AND	a && b	true if *a* and *b* are both true and false otherwise
||	Logical OR	a || b	true if *a* or *b* or both are true and false otherwise

For example
0≤price≤100: ((price >= 0) && (price <= 100))
num is a number less than 0 but not equal to –1: ((num < 0) && (num != -1))
price<0 or price>100: ((price < 0) | | (price > 100))

IF Statement

· An *if statement* allows a program to choose whether or not to execute a particular statement.

```
if ( grade > 90)   //enclose the Boolean expression, or condition, in parenthesis.
    num = num +1;
```

· An *if-else statement* allows a program to do one thing if a condition is true and a different thing if the condition is false.

```
if ( num1 < num2)
    min =  num1;
else
    min =  num2;
```

· Using *block statement* to execute more than one statement as the result of evaluating a Boolean condition. (a block is a list of statements enclosed in braces).

```
if ( num1 < num2) {
    min =  num1;
    max = num2;
}
else {
    min =  num2;
```

```
    max = num1;
}
```

- In a *nested if statement*, an *else* clause is matched to the closet unmatched *if*.

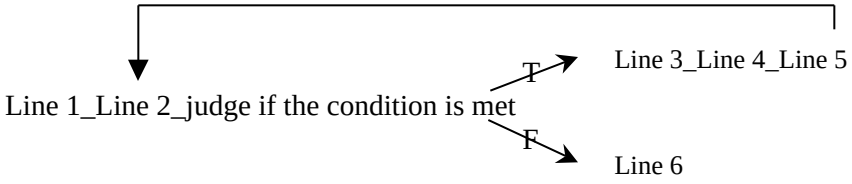
```
if ( num1 < num2)
   if ( num1 < num3)
      min =  num1;
   else
      min =  num3;
else
   if ( num2 < num3)
      min =  num2;
   else
      min =  num3;
```

The WHILE Statement

- A *while* statement allows a program to execute the same statement multiple times.

```
Line 1:
Line 2:          while (a condition)
Line 3:          {
Line 4:
Line 5:          }
Line 6:
```

The order of execution



Example 1 – calculate the total credits for all courses you take, input –1 to end the calculation

```
//initialize totalCredits to zero
totalCredits = 0;

//read the credit for the first course
str=stdin.readLine();  //Reads in string of characters from user
credit=Integer.parseInt(str);  //Converts string to integer

//calculate the total credits for all courses, if credit==-1, that means there is no course left
while(credit != -1){
      //add the credit of this course to the total credits
      totalCredits = totalCredits + credit;

      //read the credit for the next course
      str=stdin.readLine();
      credit=Integer.parseInt(str);
}
```

```
//Display the total credits on the screen
System.out.println("The total credits is " + totalCredit);
```

Example 2 – Print 10,9,8,7,6,5,4,3,2,1 on the screen.

```
count = 10;
while ( count > 0 ) {
    System.out.println(count);
    count = count –1;
}
System.out.println("end!");
```

Question: if delete the statement "count = count –1", what will happen?