**CM 1601 Programming Fundamentals**

**Tutorial 3**

1. Write another program to get 2 values as command line arguments and find the Maximum of those 2 using conditional operator.
2. Write a program to read in a temperature value, and if the temperature is above a certain value display ‘Hot’, otherwise display ‘Cold’.
3. Which is right?

if ((age < 17 || > 150)) { //don’t drive! }  
if ((age < 17 ) || (age > 150)) { //don’t drive! }  
if ((age < 17 ) && (age > 150)) { //don’t drive! }

1. A school has following rules for grading system:  
   a. Below 25 - F  
   b. 25 to 45 - E  
   c. 45 to 50 - D  
   d. 50 to 60 - C  
   e. 60 to 80 - B  
   f. Above 80 - A  
   Ask user to enter marks and print the corresponding grade.
2. If  
   x = 2  
   y = 5  
   z = 0  
   then find values of the following expressions:  
   a. x == 2  
   b. x != 5  
   c. x != 5 && y >= 5  
   d. z != 0 || x == 2  
   e. !(y < 10)
3. Write a program to check whether a entered character is lowercase ( a to z ) or uppercase ( A to Z ).
4. Rewrite in Java the following statement without using the NOT (!) operator:

item = !( (i<10) | | (v>=50) )

1. Type the following script and observe the output.

class IncDec{

public static void main(String args[ ]) {

int a = 1;

int b = 2;

int c = ++b;

int d = a++;

c++;

System.out.println(“a = ”+a);

System.out.println(“b = ”+b);

System.out.println(“c = ”+c);

System.out.println(“d = ”+d);

}

}

1. Two programs are equivalent if given the same input they produce the same output. Which of the following programs are equivalent? Why?

// Program A

import java.util.Scanner;

class TestPositive {

public static void main(String [] args) {

Scanner S = new Scanner(System.in);

System.out.print(“Enter a value: ”);

int x = S.nextInt();

if (x > 0) {

System.out.println(“The value is positive:”);

}

else {

if (x < 0) {

System.out.println(“The value is negative:”);

}

else {

System.out.println(“The value is zero:”);

}

}

System.out.println(“Good Bye!”);

}

}

// Program B

import java.util.Scanner;

class TestPositive {

public static void main(String [] args) {

Scanner S = new Scanner(System.in);

System.out.print(“Enter a value: ”);

int x = S.nextInt();

if (x > 0) {

System.out.println(“The value is positive:”);

}

if (x < 0) {

System.out.println(“The value is negative:”);

}

else {

System.out.println(“The value is zero:”);

}

System.out.println(“Good Bye!”);

}

}

// Program C

import java.util.Scanner;

class TestPositive {

public static void main(String [] args) {

Scanner S = new Scanner(System.in);

System.out.print(“Enter a value: ”);

int x = S.nextInt();

if (x > 0) {

System.out.println(“The value is positive:”);

}

if (x < 0) {

System.out.println(“The value is negative:”);

}

if (x ==0) {

System.out.println(“The value is zero:”);

}

System.out.println(“Good Bye!”);

}

}

1. Guess the output. Explain the flow of the program.

//program 1

public static void main(String [] args)

{

int x= 0;

int y= 0;

for (int i = 0; i < 5; x++)

{

if (( ++x > 2 ) && (++y > 2))

{

x++;

}

}

System.out.println(x + " " + y);

}

//program 2

public static void main(String [] args)

{

int x= 0;

int y= 0;

for (int i = 0; i < 5; z++)

{

if (( ++x > 2 ) || (++y > 2))

{

x++;

}

}

System.out.println(“x= ”+x+” y=”+y);

1. Predict the output

int i = 1;

i += ++i + i++ + ++i;

int j = 1;

j += ++j + j++ + ++j;

int k = 1;

k += k++ + k++ + ++k;

int m = 1;

System.out.println("i = " + i);

System.out.println("j = " + j);

System.out.println("k = " + k);

1. Use switch-case construct to calculate number of days in a year when you give month as the input

You are only allowed to call the switch only once for the whole calculation