ICT NVQ Level 5
Semester I – 2012
Software Programming
Practical Sheet 1

1. Try out the program 1, 2 from the lecture.
2. Try out the following codes.

Program 1

```
public class Welcome
{
  public static void main( String args[] )
  {
    System.out.println( "Welcome\nto\nSoftware\nProgramming!" );

  }

}
```

Program 2

```
class TypeCasting
{
  public static void main( String args[] )
  {
        //data types
        System.out.println( "Variables" );
        char c = ‘a’;
        byte b = 50;
        short  s = 2012;
        int i = 123456789;
        long l = 123456789876543L;
        float f = 3.14F;
        double d = 0.00000001;

        System.out.println( “c =” + c);
        System.out.println( “b=” + b);
        System.out.println( “s =” + s);
        System.out.println( “i=” + i);
        System.out.println( “l =” + l);
        System.out.println( “f =” + f);
        System.out.println( “d =” + d);

        //type casting
        short s1 = (short)b;
        short s2 = (short)i; // incorrect result
```

```
        int m1 = (int)f; // fractional part is lost
    }
}
```

Program 3

```
class RelationalOperators
{
    public static void main( String args[] )
     {
    float a = 15.5, b= 20.75, c = 15.5;

     System.out.println( "a =" + a);
    System.out.println( "b =" + b);
    System.out.println( "c =" + c);
    System.out.println( "a < b is" +( a<b));
    System.out.println( " a > b is" +( a>b));
    System.out.println( "a ==c is" +( a==c));
    System.out.println( "a <= c is" + (a<=c));
    System.out.println( "a >= b is" +( a>=b));
    System.out.println( "b != c is" + (b != c));
    System.out.println( "b == a +c is " + (b ==a+c));
    }
}
```

Program 4

```
class IncrementOperator
{
    public static void main( String args[] )
     {
        int m = 10, n = 20;
        System.out.println( "m =" + m);
        System.out.println( "n =" + n);
        System.out.println( "++m =" + ++m);
        System.out.println( "n++ =" + n ++);
        System.out.println( " –m =" + --m);
        System.out.println( "n -- =" +n --);
    }
}
```

3. Write a program to convert distance from miles and yards to kilometers
   - Declare two integer variables, miles and yards, and one double variable for kilometers
   - Initialize the variables to hold the number of miles and yards in a marathon respectively (miles to 26 and yards to 385).
   - Write an expression to calculate kilometers from miles and yards.

- Save the result of the expression in the variable kilometers.
- One mile is 1.609 kilometers
- There are 1760.0 yards in a mile

4. Show how to improve the code by using constants for the fixed parameters.
5. Write a program that draws the following figures one above the other only using escape sequences.

```
* * * * *          *

* * * * *         * *

* * * * *        * * *

* * * * *       * * * * *
```

6. Write a program to convert given temperature in Fahrenheit to Celsius using following formula and display value.
   C=(F-32)/1.8
7. Write a program to extract the digits of a given integer and print the individual numbers.
8. Write a program to print the squre root of a given number.
   Hint: use sqrt ( ) method in math class
   e.g. Math.sqrt (x);
9. Find the errors in the following program and fix them.

```
class FindErrors
{
        public static void main(String args[])
        {
                int for ;
                int age = 20;
                int AGE = 10;

                System.out.println( "age is" + age);
                System.out.println( "AGE is" age);
        }
}
```

10. Write a program to take your first name and last name as input from command line and print a greeting message back to you as one line.