

HW1- Sapir Erlich

1.AddTwo -

```
/*  
 * Adds two given integers and prints the result in a fancy way.  
 */  
public class AddTwo {  
    public static void main(String[] args) {  
        // Declares two integer variables and sets them according to the command  
        // line arguments  
        int a = Integer.parseInt(args[0]);  
        int b = Integer.parseInt(args[1]);  
        System.out.println(a + " + " + b + " = " + (a + b));  
    }  
}
```

2. Coins-

```
/*  
 * Write a program that gets a quantity of cents as a command-line argument.  
 * The program prints how to represent this quantity using as many quarters as  
 possible, plus the remainder in cents.  
 */  
public class Coins {  
    public static void main(String[] args) {  
        // Declares an integer variable and sets it according to the command line  
        argument  
        int a = Integer.parseInt(args[0]);  
        int quarters = a / 25;  
        int cents = a % 25;  
        System.out.println("Use " + quarters + " quarters and " + cents + " cents");  
    }  
}
```

3. LinearEq-

```
/*  
 * Solves linear equations of the form  $a \cdot x + b = c$ .
```

```
* The program gets a, b, and c as command-line arguments,  
* computes x, and prints the result.  
* Treats the three arguments as well as the computed value as double values  
*/  
public class LinearEq {  
    public static void main(String[] args) {  
        // Declares 3 double variables and sets them according to the command line a  
        // argument  
        double a = Double.parseDouble(args[0]);  
        double b = Double.parseDouble(args[1]);  
        double c = Double.parseDouble(args[2]);  
        // Calculate x based on the equation  
        double x = (c - b) / a;  
        System.out.println(a + " * x + " + b + " = " + c);  
        System.out.println("x = " + x);  
    }  
}
```

4. Triangle -

```
/*
 * Three sides can form a triangle if the sum of the lengths of any two sides is greater
 * than the length of the remaining side.
 * This is known as the Triangle Inequality Theorem.
 * Write a program that tests if three given integers form a triangle.
 */
public class Triangle {
    public static void main(String[] args) {
        // Declares 3 integer variables for each side of the triangle, and sets them
        // according to the command line argument
        int side1 = Integer.parseInt(args[0]);
        int side2 = Integer.parseInt(args[1]);
        int side3 = Integer.parseInt(args[2]);
        // Checks if the sum of the lengths of any two sides is greater than the
        // length of the remaining side, if so, is_triangle is true
        boolean is_triangle = ((side1 + side2 > side3) && (side1 + side3 > side2)
            && (side2 + side3 > side1));
        System.out.println(side1 + ", " + side2 + ", " + side3 + ": " + is_triangle);
    }
}
```

5. GenThree-

```
/*
 * Generates three random integers, each in a given range [a,b),
 * prints them, and then prints the minimal number that was generated.
 */
public class GenThree {
    public static void main(String[] args) {
        // Declares 2 integer variables for the min and max of range, and sets them
        // according to the command line argument and the min and max func
        int min_range = Math.min(Integer.parseInt(args[0])
            ,Integer.parseInt(args[1]));
        int max_range = Math.max(Integer.parseInt(args[0])
            ,Integer.parseInt(args[1]));
        //Calculates the range (not includes the max_range number)
        int range = max_range - min_range;
        // Randomize 3 integers in the range
        int random1 = (int)(Math.random() * range) + min_range;
        int random2 = (int)(Math.random() * range) + min_range;
        int random3 = (int)(Math.random() * range) + min_range;
        //Calculate the min integer out of the 3 randoms
        int min = Math.min(random1,random2);
        min = Math.min(min,random3);
        System.out.println(random1);
        System.out.println(random2);
        System.out.println(random3);
        System.out.println("The minimal generated number was " + min);
    }
}
```