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-

```java
/*
* Solves linear equations of the form a · 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-

```java
/*
* 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);
  }
}
```