HW1 Code – Alon Morad

1. AddTwo

```java
/*
 * Adds two given integers and prints the result in a fancy way.
 */
public class AddTwo {
    public static void main(String[] args) {
        // declares two int variables and gets them from user
        int a = Integer.parseInt(args[0]);
        int b = Integer.parseInt(args[1]);
        // prints the sum
        System.out.println(a + " + " + b + " = " + (a+b));
    }
}
```

2. Coins

```java
/*
 * 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 int variable and gets it from user
        int cents = Integer.parseInt(args[0]);
        // prints the amout of quarters and cents the user needs
        System.out.println("Use " + cents/25 + " quarters"
                        + " and " + cents%25 + " cents");
    }
}
```

3. Linear Equation Solver

```
/*
 * 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 three double variables and gets them from
user
        double a = Double.parseDouble(args[0]);
        double b = Double.parseDouble(args[1]);
        double c = Double.parseDouble(args[2]);
        // prints the equation and its solution
        System.out.println(a + " *" + " x" + " + " + b + " = " +
c);
        System.out.println("x " + "= " + ((c-b)/a));
    }
}
```

4. Triangle

```java
/*
 * 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 three int variables and gets them from user
        int a = Integer.parseInt(args[0]);
        int b = Integer.parseInt(args[1]);
        int c = Integer.parseInt(args[2]);
        // declares boolean variable
        boolean possible;
        // checks if triangle is valid by rules
        if (a+b > c && a+c > b && b+c > a)
            possible = true;
        else
            possible = false;
        // prints the sides and if triangle is possible
        System.out.println(a + ", " + b + ", " + c + ": " +
possible);
    }
}
```

5. Gen3

```java
/*
 * Generates three random integers, each in a given range [a,b),
 * prints them, and then prints the minimal number that was generated.
 */
import java.util.Random;
public class GenThree {
    public static void main(String[] args) {
        // declares two int variables and gets them from user
        int a = Integer.parseInt(args[0]);
        int b = Integer.parseInt(args[1]);
        // creating a new random object
        Random random = new Random();
        // generating three random numbers in range and prints them
        int first = random.nextInt((b - a)) + a;
        int second = random.nextInt((b - a)) + a;
        int third = random.nextInt((b - a)) + a;
        System.out.println(first);
        System.out.println(second);
        System.out.println(third);
        // declaring int variable and sets its value by min function of math class
        int min = Math.min(first, second);
        // checks if third number is smaller than the first&second numbers, if it does its sets as his new value
        min = Math.min(min, third);
        // prints the minimal number that was generated in range
        System.out.println("The minimal generated number was: " + min);
```

```
        }
    }
```