COS126 Conditionals and Loops Activity - Section 1.3

1. Look up Program 1.2.5. `RandomInt.java` (p.33)

   Web Exercise 1.3.1. Write `RollDie.java` to simulate the toss of a fair six-sided die. Use casting to get a random integer, as in `RandomInt.java`.

```
/*
 *
 */
public class RollDie {
   public static void main(String[] args) {
      // how many sides on the die?
      _____________ SIDES = ___________________;

      // roll should be 1 through SIDES
      int roll = ____________________________________________________

      // print result
      ____________________________________________________________
   }
}
```

2. Look up Program 1.3.1. `Flip.java` (p.49)

   Web Exercise 1.3.2. Write `RollLoadedDie.java` to simulate the toss of a loaded six-sided die where where the 1, 2, 3, 4, and 5 appear with probability 1/8 and 6 appears with probablity 3/8. Use `if - else` as in `Flip.java` (but there will be more choices).

```
/*
 *
 */
public class RollLoadedDie {
   public static void main(String[] args) {
      // generate random double in the range [0.0, 1.0)
      _________________ r = ________________________________________;

      // compute the roll with desired probabilities
      int roll;
      if      (_____________________________________) roll = _______;
      else if (
      else if (
      else if (
      else if (
      else

      // print the roll


   }
}
```

3. Find `PowersOfTwo.java` in your book or on the website. It uses a `while` loop. Rewrite it to use a `for` loop. (answer on p. 57)

```
/*
 *
 */
public class PowersOfTwo {
   public static void main(String[] args) {









   }
}
```

4. Write `FiniteSum.java` which takes one integer command-line argument `N`, and prints the sum $(1 + 2 + ... + N)$. (Answer on p.57)

```
/*
 *
 *
 */
public class FiniteSum {
   public static void main(String[] args) {









   }
}
```

- Recommended Exercises: 1.3.7, 1.3.13, 1.3.20