Homework #4 – Rolling Dice

DUE: October 1 by 11:59:59 PM **Assigned**: September 24

Background

Simulate rolling a six-sided die 60,000 times and chart the results.

Assignment Requirements

- The name of your source code file shall be `hw04.cpp`
- The program does not take any input
- Roll the die 60,000 times and keep count of each roll
- In order for the chart to fit easily on the screen, the chart will only show 1% of the totals
- Two functions are required
  - `int roll_d6_die()`
    - Returns the result of a random roll of a six-sided die
  - `void print_rolls(int val, int numRolls, int onePercentOfTotalRolls)`
    - Takes as parameters the die face to print, total number of a roll, and the value to reduce by, i.e., 1% of the total rolls in this case
    - The body of this function is only responsible for printing a single data row
      - This function does NOT print the table header

Sample Run

Your distribution won't look exactly like this, but all bars should be very nearly equivalent with each other to represent a fair die.

```
Distribution of dice rolls
==========================
1: ****************
2: ****************
3: ****************
4: ****************
5: ****************
6: ****************
```

Hints

- The parts required to generate random numbers should not be re-initialized every time the function `roll_d6_die()` is called
- The number of rolls should not be a magic number
- Integer division is sufficient

Reminders

- Be sure to include a comment block at the top of every file with the required information
    - Refer to the General Homework Requirements handout on Blackboard
- Provide meaningful comments
    - If you think a comment is redundant, it probably is
    - If you think a comment is helpful, it probably is
    - Remember that you are writing comments for other programmers, not people who know nothing (obligatory Jon Snow) about coding
    - Comments are more helpful when they explain why, not what or how
- There will be no extensions

Preparing and Submitting

- Your code must be able to compile and run on the EECS lab machines
    - You are responsible for testing your code
    - "But it runs fine on my machine!" will **not** earn you any points
- Submit **ONLY** your source code file
- Homework submission will be handled exclusively through Blackboard