

# CSCE 2004 – Programming Foundations I

## Homework Five Report

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**Academic Integrity Statement:** I pledge that I have neither given nor received unauthorized help on this programming assignment.

The goal of this programming assignment was to learn more about arrays. The program asks the user how many sides, dice, and rolls they want to simulate with error checking. These inputs will be simulated and the results will be stored in an array. Then the contents of the array will be printed out.

To design the program, I split the inputs for the user into multiple programs. I also used a separate function for the simulation of the rolls. In the main function, I get all the user inputs and simulate the rolls using the previously mentioned functions. Then, all the contents from the array used to track the results of the simulation are printed on the screen using a for loop. If there is a tie I print all the most common numbers. If there is only one most common number I print only that.

I started by implementing the inputs for the user and checking them for errors. I then moved on to implementing the simulation function for the rolls. Finally, I set up the main function and printed all the outputs.

Program output with error checking:

```
How many sides do you want your dice to have: 0
Dice must have at least one side, try again: 2
How many dice do you want to roll: 0
You must have at least one dice, try again: 3
How many dice rolls do you want: 0
You musy roll at least once, try again: 1

Here are the  simulation results from rolling a 3d2 1 time(s):
Row Total      Count   Percentage
3              0       0.00000
4              0       0.00000
5              1       1.00000
6              0       0.00000
The most rolled number was 5 with 1 roll(s)
```

The program worked fine and I had to use many external functions from previous assignments such as `memset()` and `srand()`. It is also nice to start using functions to break up functions and make them less cluttered. This assignment probably took me an hour or two to complete.