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Lab 3 Reflection

After first created the first two classes, which were LoadedDie and Die, it was time to move on to the game class which basically implemented the rolling of the die, score keeping and results printing. This was the more difficult part of the program as bringing in everything together requires a large amount of memorization to what type of function, variable, etc needs to be used and whether going back and changing the classes of die and loaded die were required.

The next thing that I ran into was using the if/else statements for choosing whether the die class would either be loaded or regular. At first I kept using if/else statements every chance I had, but that ultimately had me running into problems such as "expected expression" errors and I could not find any way around it. From then I remembered in 161 where we had a certain operator that we were not able to use in the then current project, but I felt like I should implement it for this program. This operator was the conditional operator which helped me out incredibly. This operator was able to let me set up a conditional statement where the Die for player 1 and 2 to be set to either a regular die or a loaded die.

Many changes were needed to be made from my original design plan to my final design and final program. From my original program, I was not able to get my loaded die to roll on a more skewed output that was wanted. Originally, it seemed as if it were to win only about 50-55% of the time which is not what a "loaded die" should do. Frustrated, I did some more research on how to apply the rand() function to allow a higher output of numbers to allow the percentage of winning to be higher for the loaded die. After some research, I finally came up with the answer to grow the range of numbers which numbers could be chosen in the rand() function, and from that allowed the winning percentage of the loadedDie class to be significantly higher.

Testing Plan within 200 Rounds:

1) Both players use regular die(6 sided die) (200)

Player 1	Player 2	Draws	Winner
68	96	36	Player 2
89	80	31	Player 1
81	90	29	Player 1

2) Both players use regular die(6 sided die) (100)

Player 1	Player 2	Draws	Winner
54	30	16	Player 1
44	50	6	Player 2
33	45	22	Player 1

3) Player 1 loaded, Player 2 regular (6 sided die) (200)

Player 1	Player 2	Draws	Winner
54	30	16	Player 1
60	30	10	Player 1
33	45	22	Player 1

4) Player 1 regular, Player 2 loaded (6 sided die) (200)

Player 1	Player 2	Draws	Winner
20	65	15	Player 2
25	49	26	Player 2
33	45	22	Player 2

5) Both players loaded die (6 sided die) (200)

Player 1	Player 2	Draws	Winner
86	75	39	Player 1
87	88	25	Player 2
85	90	25	Player 1