**Project 1**

**Yahtzee!**

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**Introduction**

I made Yahtzee! Because I think it’s a fun and simple game and I have a lot of good memories of playing it with my family as a kid. I spent about 3 days making this game, mostly trial and error trying to make Dungeons and Dragons then giving up and making this. I also spent about 2 days doing research on what parts of the STL library I thought would be best implemented for a game like Yahtzee.

**Approach to Development**

The concept of this game was really just to use a dice roller and pattern creation for the player. I originally wanted the player to be able to compete against the computer, but it became too complicated to implement in a reasonable amount of time. I also wanted to add a timer for the player to complete the game within, but to me it seemed a bit much to do that for enjoyment of the game.

**Game Rules**

You start with five 6-sided dice, and you shake them around in a cup then pour them all out on a flat surface. In my implementation, the rolling of the dice is done digitally, and the numbers are returned in a mapped list format. The player then chooses what pattern they want to create based on what was initially rolled. The player can choose from the following patterns to create: 5 of a kind (Yahtzee), 3 of a kind, 4 of a kind, full house, small straight, large straight, or chance which is no pattern. The player picks up as many dice as they want to start their pattern, and the rest of the dice are rerolled, and the cycle continues until the pattern is reached.

**Description of Code**

I used a map for the dice being rolled so that the index of the pair would correlate to the value of what was rolled which made it easier to select which die you wanted to pick up. I used a list to keep track of what dice the player was collecting. I used a while loop to end the game after there are no more dice to be rolled.