

Project 1

The Yahtzee Game

CSC/CIS-5

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Introduction

Title: The Yahtzee Game

The Yahtzee game is a dice consisting of more than one player. The objective of this game is to score the highest amount of points by rolling the dice three times. Different categories give you more points than others depending on the face of the dice. This is a fun, competitive game to be played with everyone the rules aren't that complicated so even a young child can follow them.

2. Game Play

Roll a pass on to see who begins. Play proceeds clockwise. Compose every player's name on the scorecard, in the play request. Roll up to multiple times each turn. Fill in one void box in the section under your name each turn. Your first roll on each of the 5 dice. If you get the specific combo you need, mark your scorecard immediately. In any case, proceed with your second roll. If you get the specific combo you want, mark your scorecard. In any case, proceed with your third roll. If you actually haven't gotten combo, or simply need to augment your score: Roll some or your dice in general, even any 'guardians' you may have saved. You should enter a score toward the finish of this roll, whether or not you like your dice! On the off chance that your roll sometimes falls short for any of your vacant boxes, you need to enter a ZERO someplace. Yet, scoring even a solitary pass on esteem is superior to a ZERO!

3. Development Summary

Throughout this process there were many times where it was simply, adding the right variable and things like that. But 3 versions took place during the making of this game.

In Version, 1 I tried to figure out how to code this game there was a lot of thought that went into it. But in the end, all version 1 was a basic setup for me to get more coding done. In version one I simply randomized the dice that were going to roll to get the numbers that would evaluate to scores for each player. In version 2 I added the first player and added that the player would have 2 rolls for their turn and also asked the user whether or not they would want to keep one of their dices for the next round that way they can stack up on points and eventually have a chance at winning... Version 3 is where I made more technical changes and additions. I added the second player to the game which involved making sure that the player's code was working and making it possible for player 2 to have the same code running alongside. I also added the third roll for the game. I misunderstood and only added 2 rolls to the game at first but when I looked back at the rules each player gets 3 rolls.

CODE

```
* File:  main.cpp
* Author: Shawn Chacko
* Created on January 30, 2022, 1:00 PM
* Purpose: Yahtzee V2
*
*/
```

//System Level Libraries

```
#include <iostream> //Input-Output Library
#include <cstdlib> //Random Function Library
#include <iomanip>
#include <cmath>
#include <ctime>
```

using namespace std;

//User Defined Libraries

//Global Constants, not Global Variables

```
//These are recognized constants from the sciences
//Physics/Chemistry/Engineering and Conversions between
//systems of units!
```

//Function Prototypes

//Execution begins here!

```
int main(int argc, char** argv) { //starts the program
    //Initialize Random Seed once here!
    srand((unsigned)time(0));
    int dice1 = rand() % 6+1; //dice 1-6 indicates the dice faces
    int dice2 = rand() % 6+1;
    int dice3 = rand() % 6+1;
    int dice4 = rand() % 6+1;
    int dice5 = rand() % 6+1;
```

//Declare Variables

```
int play1,play2; // 2 players playing Yahtzee
string yn; //asks if player wants to reroll
int numKeep;
int trackKeep;
int keepers1 = -1;
int keepers2 = -1;
```

```

int keepers3 = -1;
int keepers4 = -1;
int keepers5 = -1;

cout<< "Welcome to the game Yahtzee" << endl; //naming the game being played
//Player One Rolling
cout << "Player 1's Turn: " << endl;
cout << "After first roll: " << endl;
cout << "Dice 1: " << dice1 << endl;
cout << "Dice 2: " << dice2 << endl;
cout << "Dice 3: " << dice3 << endl;
cout << "Dice 4: " << dice4 << endl;
cout << "Dice 5: " << dice5 << endl;

cout << "Total Score: " << dice1 + dice2 + dice3 + dice4 + dice5 << endl;
cout << "Would you like to keep any Dice? (Yes/No): ";
cin >> yn;
if(yn == "Yes"){
    cout << "Please select which Dice you would like to keep: ";
    cin >> numKeep;
    if(numKeep == 1){
        keepers1 = dice1;
        cout << "Saved Dice 1: " << keepers1 << endl;
    }else if(numKeep == 2){
        keepers2 = dice2;
        cout << "Saved Dice 2: " << keepers2 << endl;
    }else if(numKeep == 3){
        keepers3 = dice3;
        cout << "Saved Dice 3: " << keepers3 << endl;
    }else if(numKeep == 4){
        keepers4 = dice4;
        cout << "Saved Dice 4: " << keepers4 << endl;
    }else if(numKeep == 5){
        keepers5 = dice5;
        cout << "Saved Dice 5: " << keepers5 << endl;
    }
}

}

cout << "Would you like to reroll? (Yes/No): ";
cin >> yn;

if(yn == "Yes" || yn == "yes"){
    dice1 = rand() % 6+1; //dice 1-6 indicates the dice faces
    dice2 = rand() % 6+1;

```

```
        dice3 = rand() % 6+1;
        dice4 = rand() % 6+1;
        dice5 = rand() % 6+1;
        cout << "After second roll: " << endl;
        cout << dice1 << ' ' << dice2 << ' ' << dice3 << ' ' << dice4 << ' ' << dice5 << endl;
        cout << "Total Score: " << dice1 + dice2 + dice3 + dice4 + dice5 << endl;
    }else if(yn == "No" || yn == "no"){
        cout << "End of Player 1's Turn";

    }

//Exit the program
return 0;
}
```

```
Welcome to the game Yahtzee
Player 1's Turn:
After first roll:
Dice 1: 2
Dice 2: 2
Dice 3: 6
Dice 4: 5
Dice 5: 3
Total Score: 18
Would you like to keep any Dice? (Yes/No): Yes
Please select which Dice you would like to keep: 3
Saved Dice 3: 6
Would you like to reroll? (Yes/No): Yes
After second roll:
Dice 1: 6
Dice 2: 4
Dice 3: 5
Dice 4: 3
Dice 5: 1
Total Score: 19
Would you like to reroll? (Yes/No): Yes
After third roll:
Dice 1: 1
Dice 2: 1
Dice 3: 6
Dice 4: 2
Dice 5: 4
```

```
Dice 3: 6
Dice 4: 2
Dice 5: 4
Total Score: 14
End of Player 1's Turn
Player 2's Turn:
After first roll:
Dice 1: 1
Dice 2: 6
Dice 3: 1
Dice 4: 3
Dice 5: 2
Total Score: 13
Would you like to keep any Dice? (Yes/No): 3
Would you like to reroll? (Yes/No): Yes
After second roll:
Dice 1: 1
Dice 2: 3
Dice 3: 4
Dice 4: 6
Dice 5: 2
Total Score: 16
Would you like to reroll? (Yes/No): No
End of Player 2's Turn
Player 2 wins with a score of 16
RUN FINISHED; exit value 0; real time: 1m 0s; user: 0ms; system: 0ms
```