

In this assignment you are to program a Yatzy-like game based on the classical Yatzy rules (<https://en.wikipedia.org/wiki/Yatzy#Scoring>). The Yatzy game in this assignment is special in the following ways:

- There can be used more than 5 dice (let's say N dice).
- The game can run without a dialog with the user (except for the input prompt for N).
- In every game it will only roll the N dice once every round.
- The rounds of the game will be completed in the following sequence: First round it will roll the dice and for 1's. Then it will do it for 2's and so forth. In the last round it will look for yatzy.
- In every round the program will chose up to 5 of the N dice which gives the highest possible points in the current round.

So it will roll the N dice at a time, $N \geq 5$. The program chooses up to 5 of the dice that can be used in the current round. The dice that are not chosen are to be ignored.

Examples with 8 dice with the faces: 2 2 6 5 1 6 2 3

- In the round where it looks for 1s: There is only one 1 face and the program should award 1 point in this category.
- In the round where it looks for 2s: There are three 2s and the program should award 6 points in this category.
- In the round where it looks for one pair: There are two 6s and the program should award 12 points in this category.
- In the round where it looks for two pairs: There are two 6s and two 2s and the program should award 16 points in this category.
- In the chance round it will take the five highest dice faces (6 6 5 3 2) and award 22 points in this category.

The game should have a score board which keep track of the points. The score board can be a simple static allocated int array. When the last round is completed the game should calculate the result based on the rules including the bonus point rule. Then it should print an overview of the game on the screen and then the user should be offered another game.

It is recommended that the N dice faces will be printed after every round including the points for that round. In this way it is easy to control if the points are being calculated correctly.

In this game there is need for a simulation of a dice. This can easily be accomplished with a function which uses the "rand" function from stdlib. This function should be called "roll_multiple_dice" which should make an int array and shows N dice rolls.

The "roll_multiple_dice" function should have the int parameter N which rolls the N dice and returns an array of the N dice rolls. This can either be done through a parameter of a pointer type or through the functions return value.