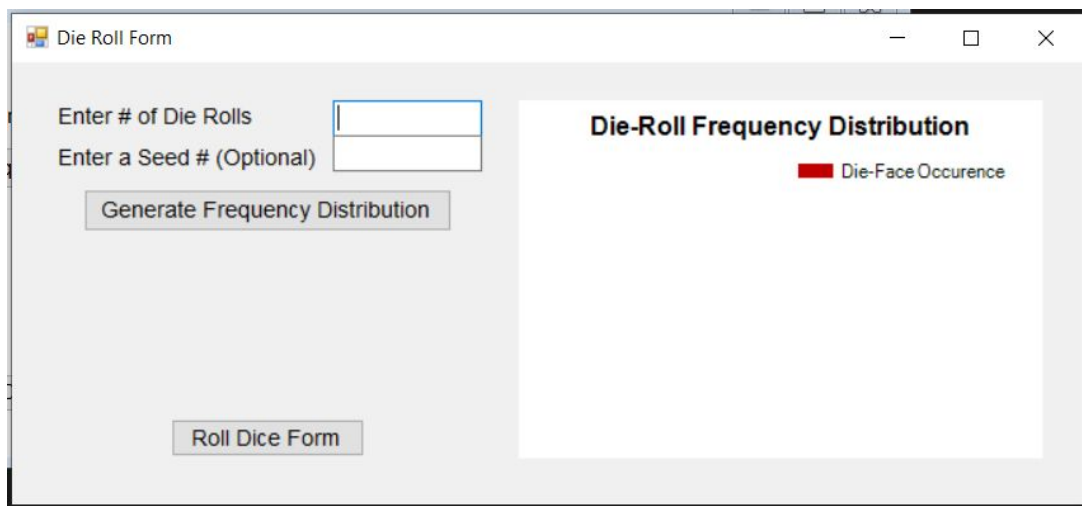


COP 4365
Name: Thi Vo

Project 1 Report

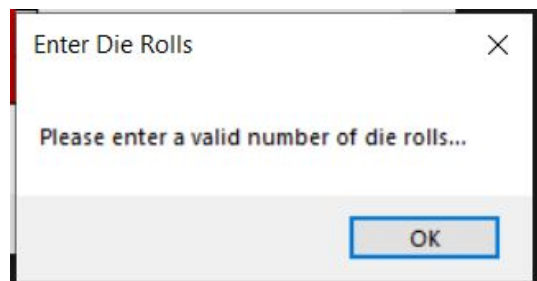
For this project, I was tasked with creating two forms in C# simulating die rolls. It was a good experience for me to design and program windows form apps in a new language.

The first form involves rolling one die a given number of times from the user. How the form looks after the program starts is shown below.



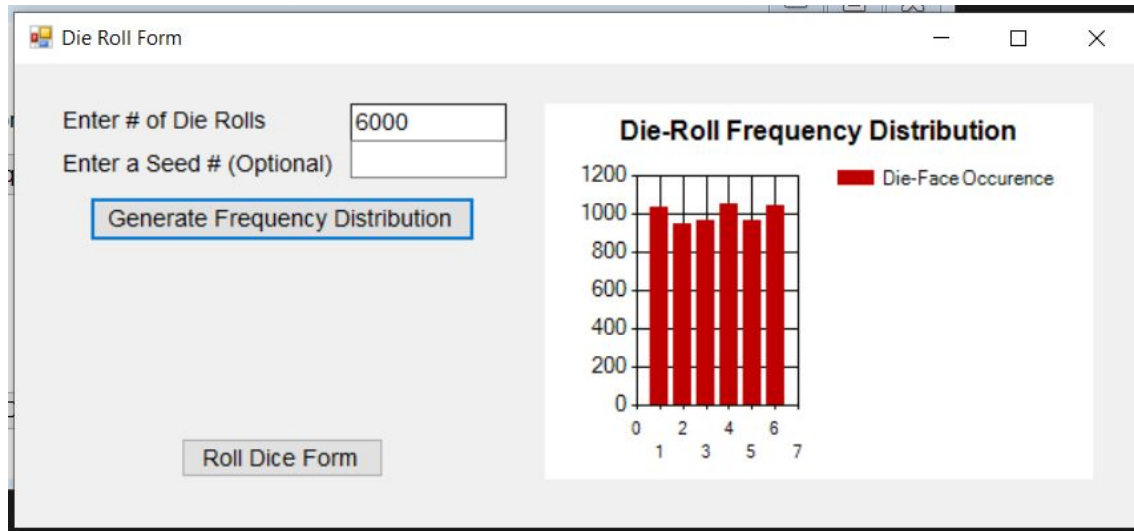
The screenshot shows a Windows Form titled "Die Roll Form". It contains two text input fields: "Enter # of Die Rolls" and "Enter a Seed # (Optional)". Below these fields is a button labeled "Generate Frequency Distribution". At the bottom left of the form is a button labeled "Roll Dice Form". On the right side of the form is a large rectangular area titled "Die-Roll Frequency Distribution" with a legend below it showing a red square next to the text "Die-Face Occurence".

The user is also given the option to select the seed number (the number of faces the die will have). This is optional and will become 6 if the user chooses not to enter input or enters invalid input. The number of die rolls isn't optional and will throw an error if the user doesn't enter input or enters invalid input as shown below.



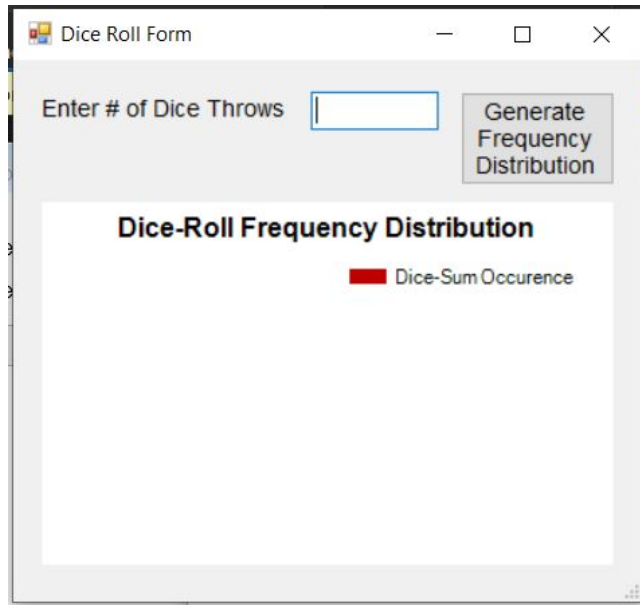
The screenshot shows a small error dialog box titled "Enter Die Rolls" with a close button (X) in the top right corner. The message inside the dialog box reads "Please enter a valid number of die rolls...". At the bottom of the dialog box is an "OK" button.

After entering valid input for the number of die rolls, the user can click the “Generate Frequency Distribution” button to populate the chart on the right side as shown below.

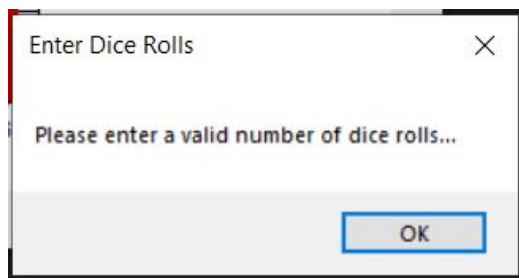


The seed number generates the rows from 1-seed #. For this example, the number for each face is roughly 1000 each ($6000 / 6 = 1000$), which is correct. This was tested with different numbers of die rolls as well as different seed numbers as the button can be repeated infinitely. Finally, there is the “Roll Dice Form” button when clicked takes the user to the second form.

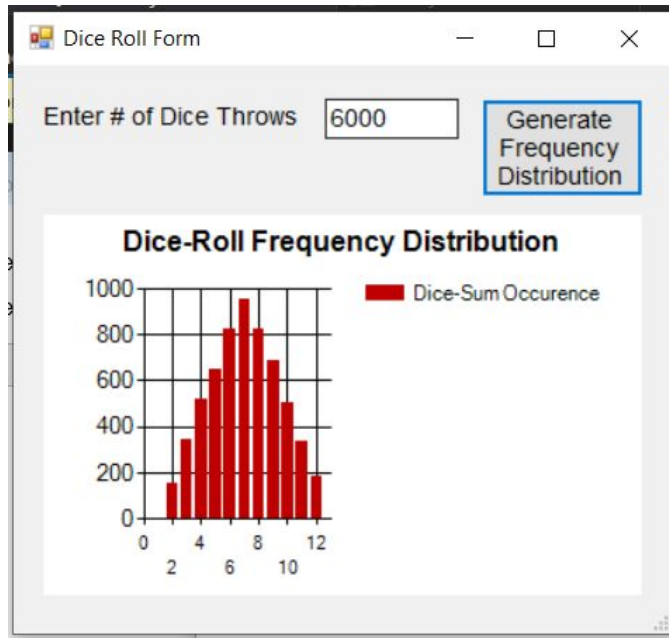
The second form involves rolling a pair of dice a given number of times by the user. How the form looks after the program starts is shown below.

The screenshot shows a window titled "Dice Roll Form". Inside the window, there is a label "Enter # of Dice Throws" followed by a text input field. To the right of the input field is a button labeled "Generate Frequency Distribution". Below these elements is a large white rectangular area. Inside this area, the text "Dice-Roll Frequency Distribution" is centered. Below this text, there is a legend consisting of a small red square followed by the text "Dice-Sum Occurence".

Similar to the first form, the number of dice rolls isn't optional and will throw an error if the user doesn't enter input or enters invalid input as shown below.

The screenshot shows a small error dialog box with the title "Enter Dice Rolls". The main text inside the dialog says "Please enter a valid number of dice rolls...". At the bottom right of the dialog is an "OK" button.

After entering valid input for the number of dice rolls, the user can click the "Generate Frequency Distribution" button to populate the chart on the bottom as shown below.



This was tested with a different number of die rolls as well as different seed numbers. The number of rows is based on the dice sum, which is from 2-12. With the given example of 6000 dice rolls. Sums of 7 are most likely to occur while sums from 6 to 2 and 8 to 12 are in decreasing occurrence. This means dice sums of 2 and 12 are least likely to occur. This was tested multiple times with different numbers of dice throws as the button can be repeated infinitely.