Shape Calculator

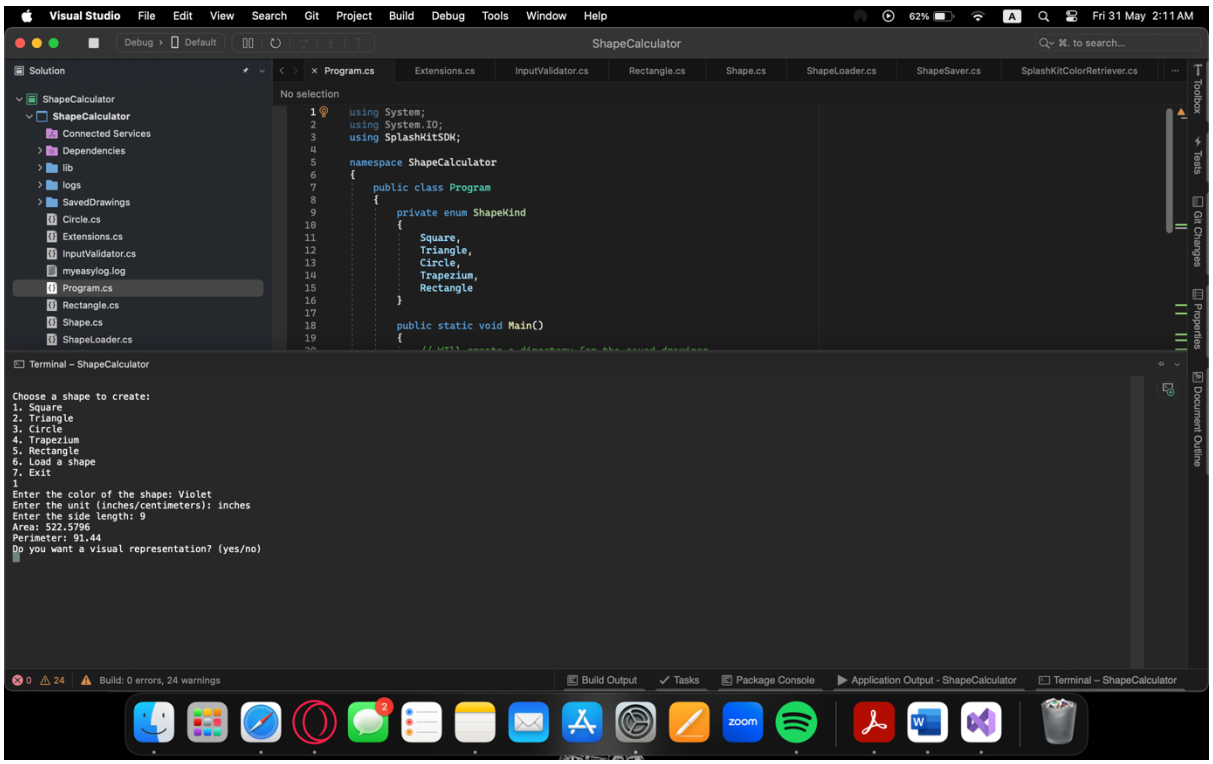
Overview

The Shape Calculator program allows users to create, visualize, save, and load various geometric shapes. The shapes supported include squares, triangles, circles, trapeziums, and rectangles. The program provides functionality to calculate the area and perimeter of these shapes in either inches or centimetres depending on user preference and offers a visual representation using the SplashKit library.

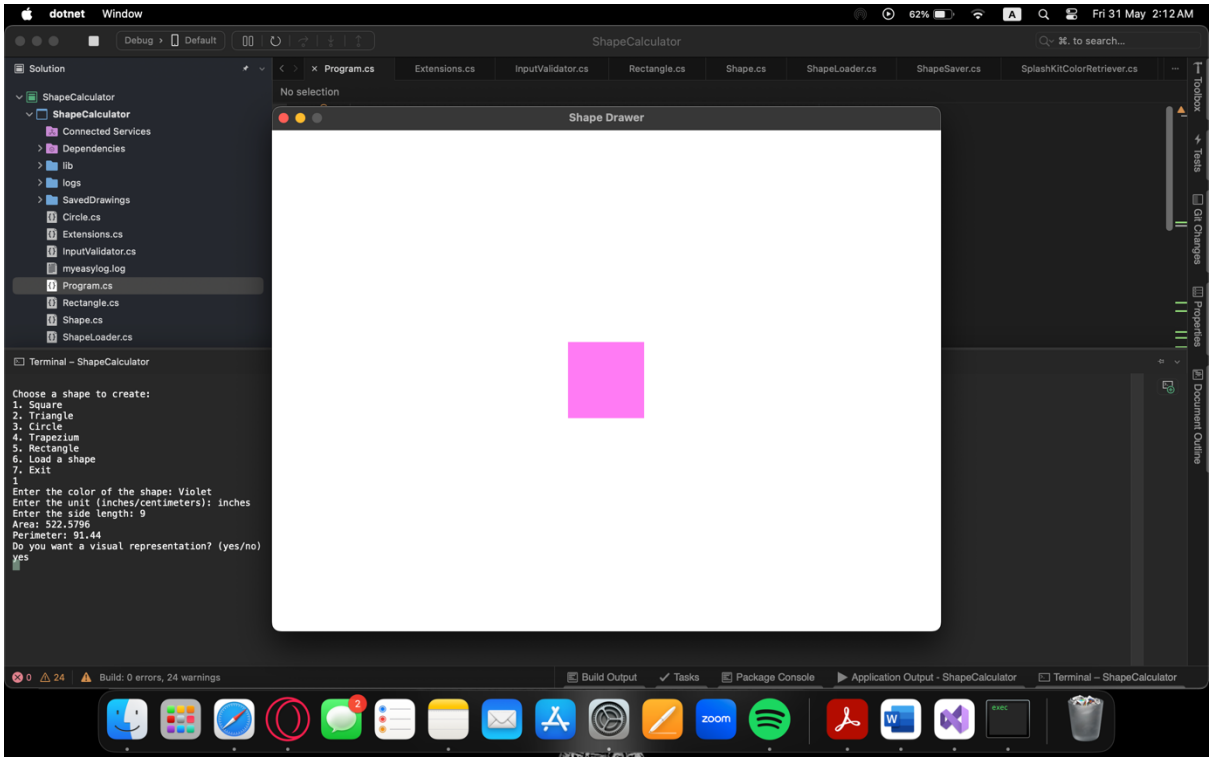
The program will mainly rely on user input from the console in order to function. Given below are examples of the program working and their outputs.

Outputs

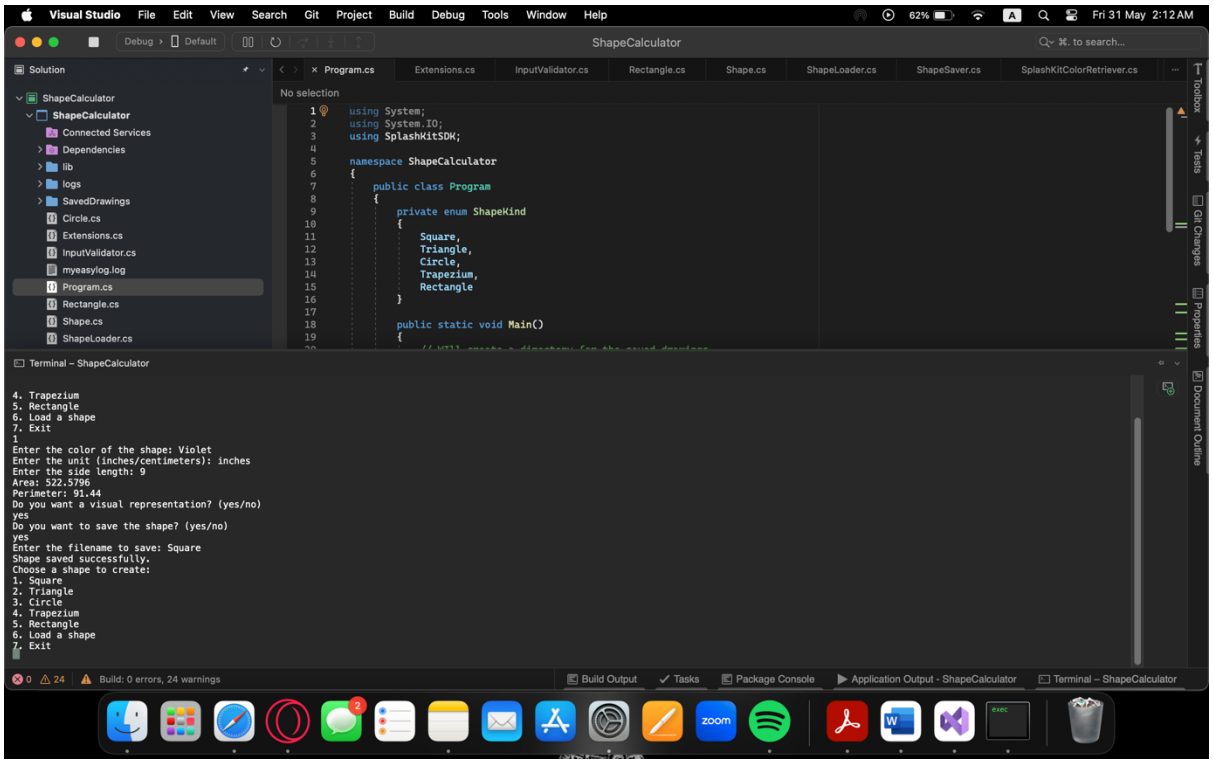
1. Users are allowed to select between the options of the shapes, from 1-5. In this example, square is selected, hence number 1 is entered. Furthermore, users are also to select the color they want by entering, in this scenario 'Violet' is selected. Moreover, the unit is allowed to be selected by entering, in this scenario 'inches' is selected. Afterwards, depending on the shape, users will be asked to input necessary measurements, in this scenario since it is a square only one length is required, 9 is entered in inches, and the area and perimeter is given in centimeters. Finally, a visually representation is asked by the user if required in which they can choose so by entering 'yes'.



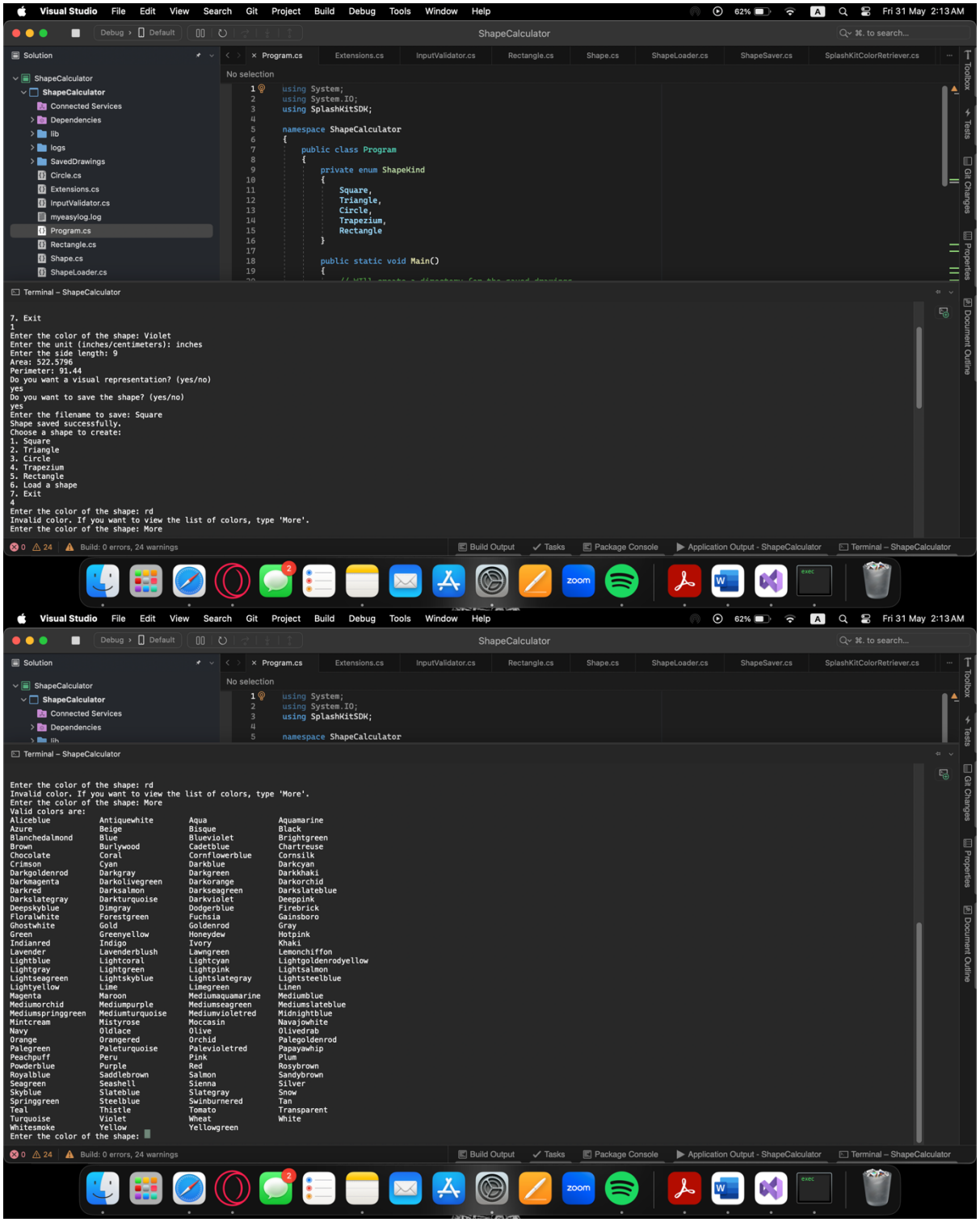
2. The Shape is drawn in a Splashkit Window as shown

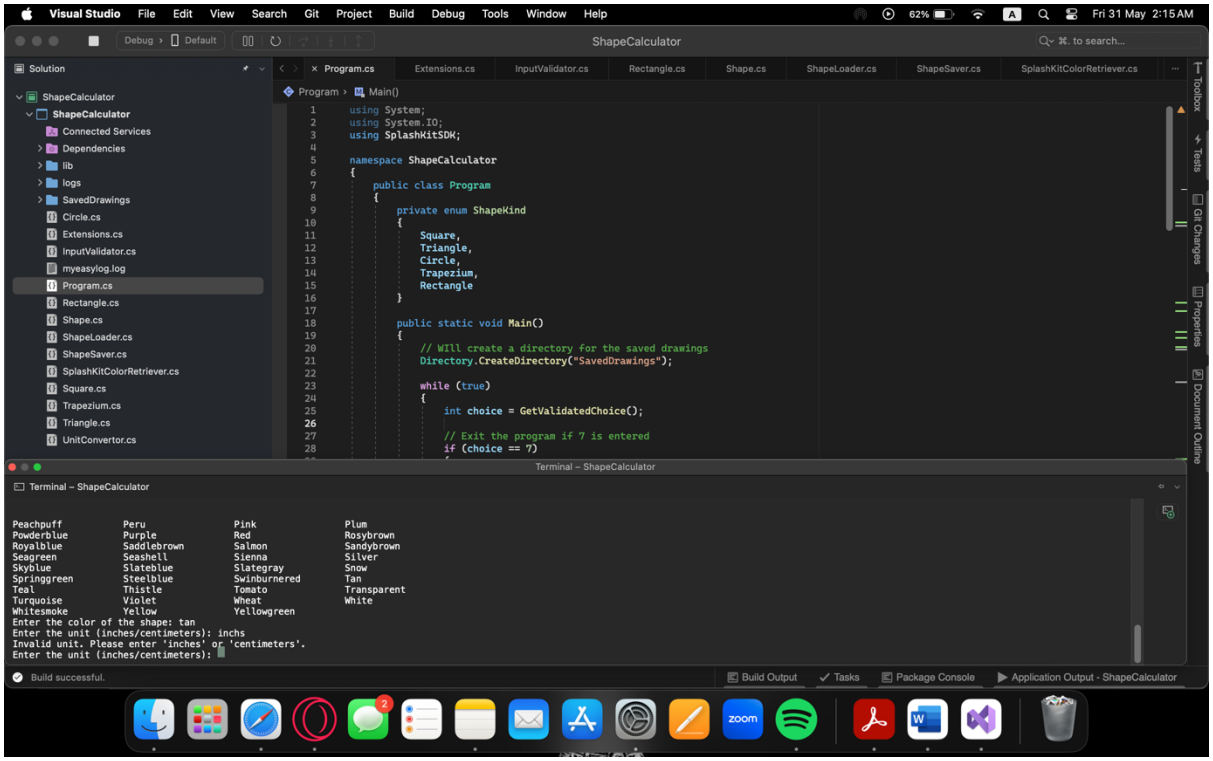


3. After closing, an option to save the shape is given where once again if the user wants to, they can do so by typing ‘yes’.



4. There have also been input validators added to the program, therefore in the case of a spelling mistake, the user can be informed of their error. Furthermore, in the case of the colours, since the user could be looking for a colour that does not exist in the SplashKit Library, an option to view the available colours is there by entering the word ‘More’ in which a list of colours will appear.





5. Finally, by choosing option 6 in the first step of the program, the user can load previous saved shapes, in this scenario the earlier saved shape is successfully loaded.