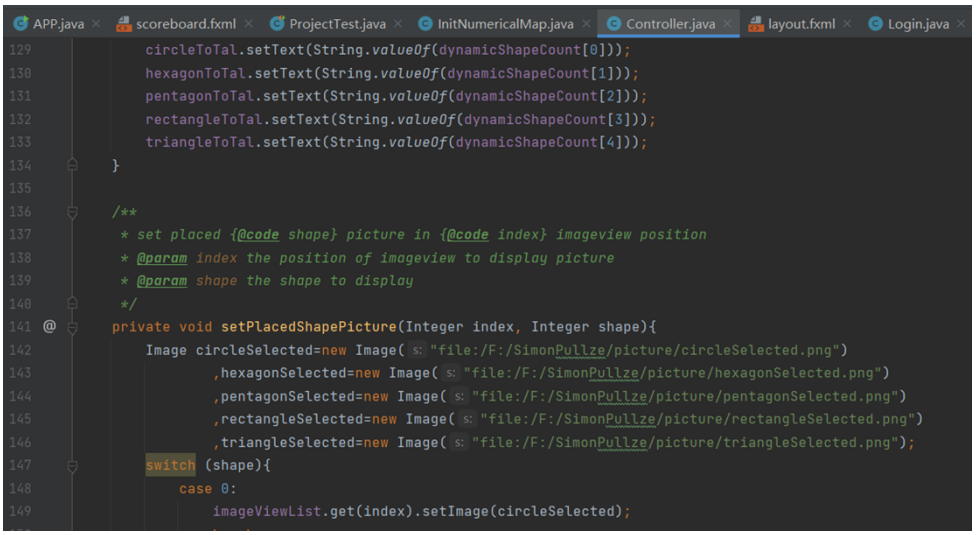
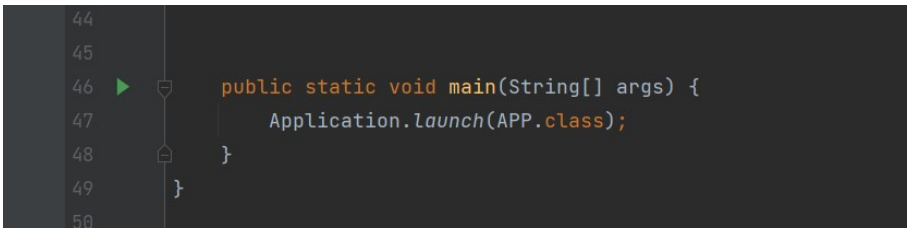
The explanation about how to run this game and the unit tests in details.

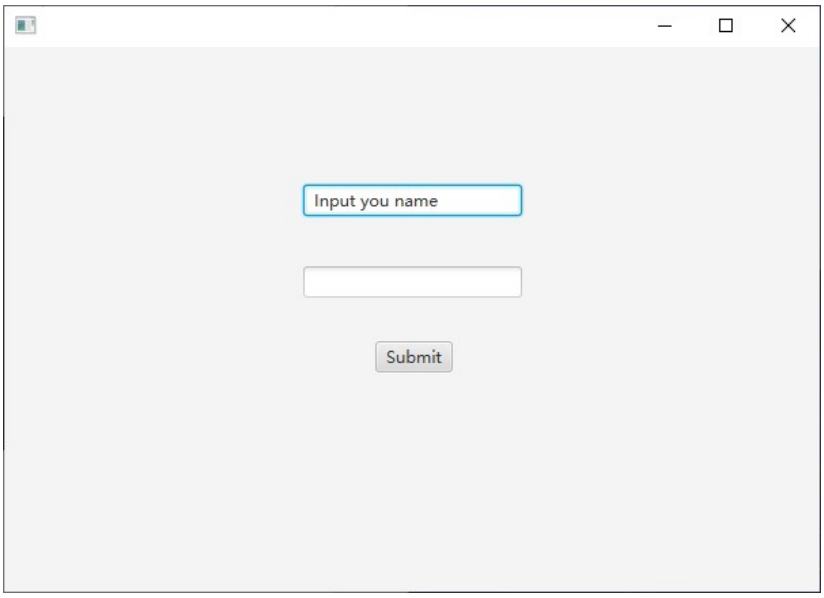
-----Warning: the paths of pictures should always be absolute path, and there should not be “%” symbol in the path. ------



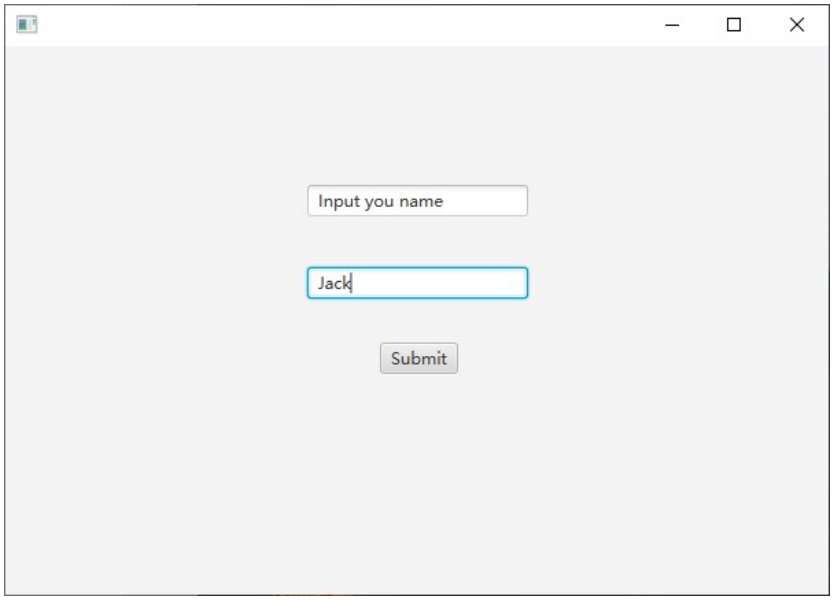
1.run this game through main method.



This is entrance of the program, you are able to enter game by clicking the start.

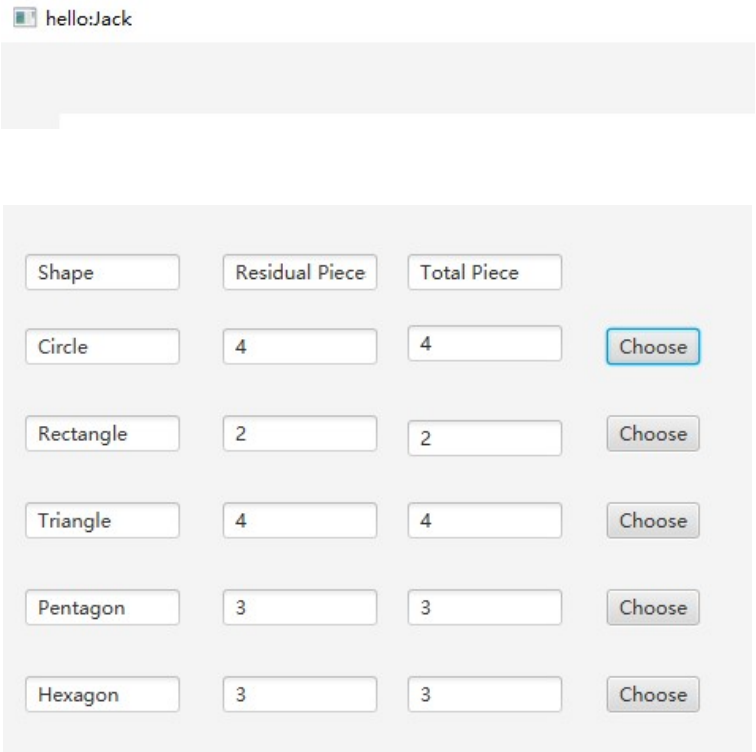


The first GUI allows you to input your name before the game starts, and you are able to submit your name by clicking the button.



2.The introduction about parameters of Residual piece and Total piece.

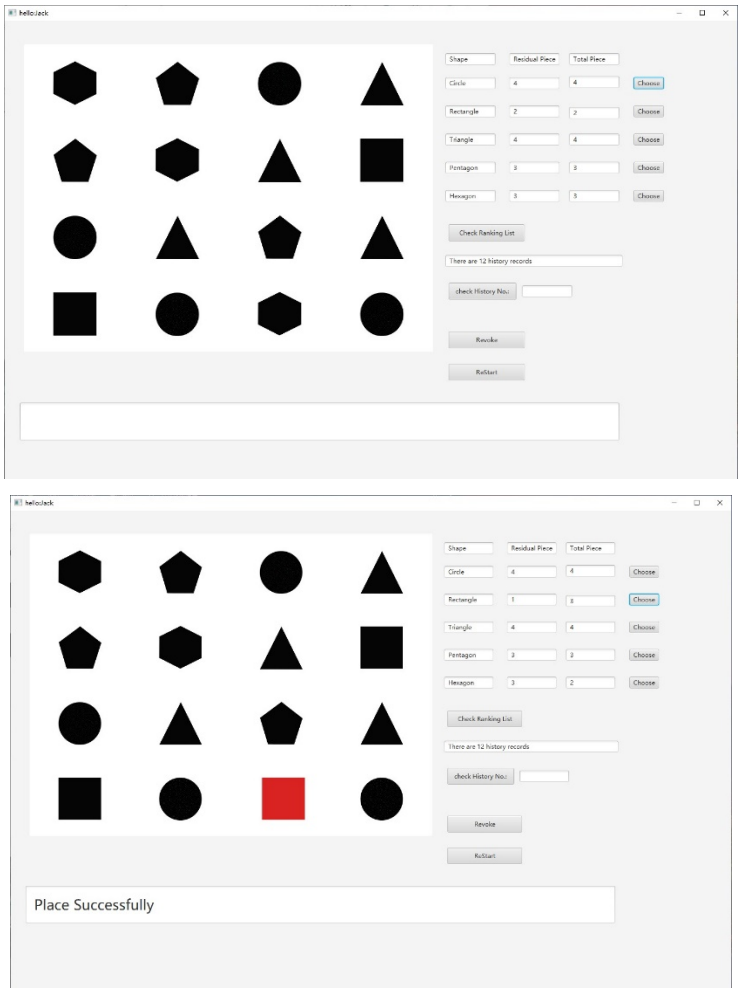
The name you have submitted will be showed on the top-left corner of the GUI.



The Residual Piece indicates how many pieces of puzzles you have left to fill in, and all the residual pieces are 0, which means victory.

Total Piece represents the total number of filled puzzles and unfilled puzzle shapes in the picture, and this data must be kept at 23344 all the time.

3.The instance illustration about game rules.



For example, here we cover a hexagon with a square, then the remaining square puzzle is reduced from 2 to 1, the number of squares in the figure is changed from 2 to 3(2 black and 1 red), and the number of hexagons in the figure is changed from 3 to 2, while the number of remaining hexagonal puzzles remains unchanged, and the total piece remains at 23344, and then Place Successfully will be displayed below after successful placement.

4.Some special conditions

If the same shape in the picture is covered with the same puzzle, it will show below “You cannot place here, because they are the same shape”.

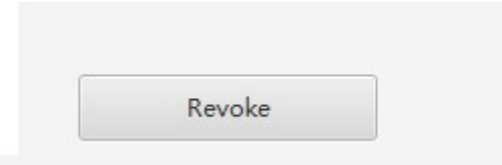
If the periphery has the same shape，it will shows that “Against With Same Shape Not Adjacent Rule!”.

If the total piece can't keep 23344 after overwriting，it will shows that “Against With 23344 Rule!”.

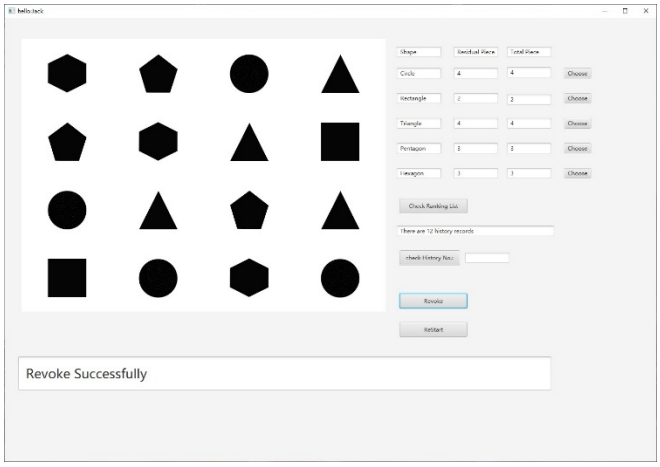
Pay attention to click the Choose button on the right to select a puzzle to cover the shapes

in the figure, otherwise it will shows that “You have not selected the shape to place”.

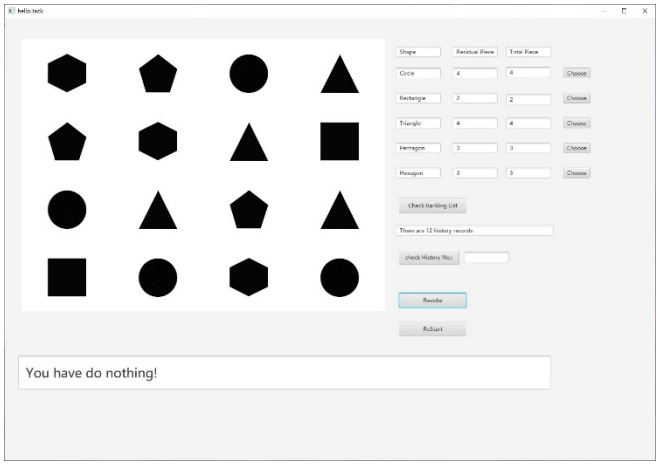
5.The revoke function



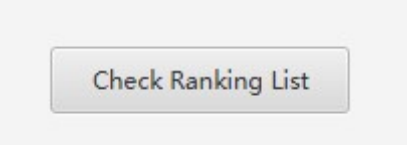
The Revoke button has backtracking function. Click once to backtrack one step. If backtracking succeeds, the following will show Revoke Successfully. After backtracking to the initial state, the following will show that “you have done nothing!”. For example, just covered the hexagon with a square, and now clicking backtracking will change to the original state, and the figure and the residual piece, total piece on the right will change back.



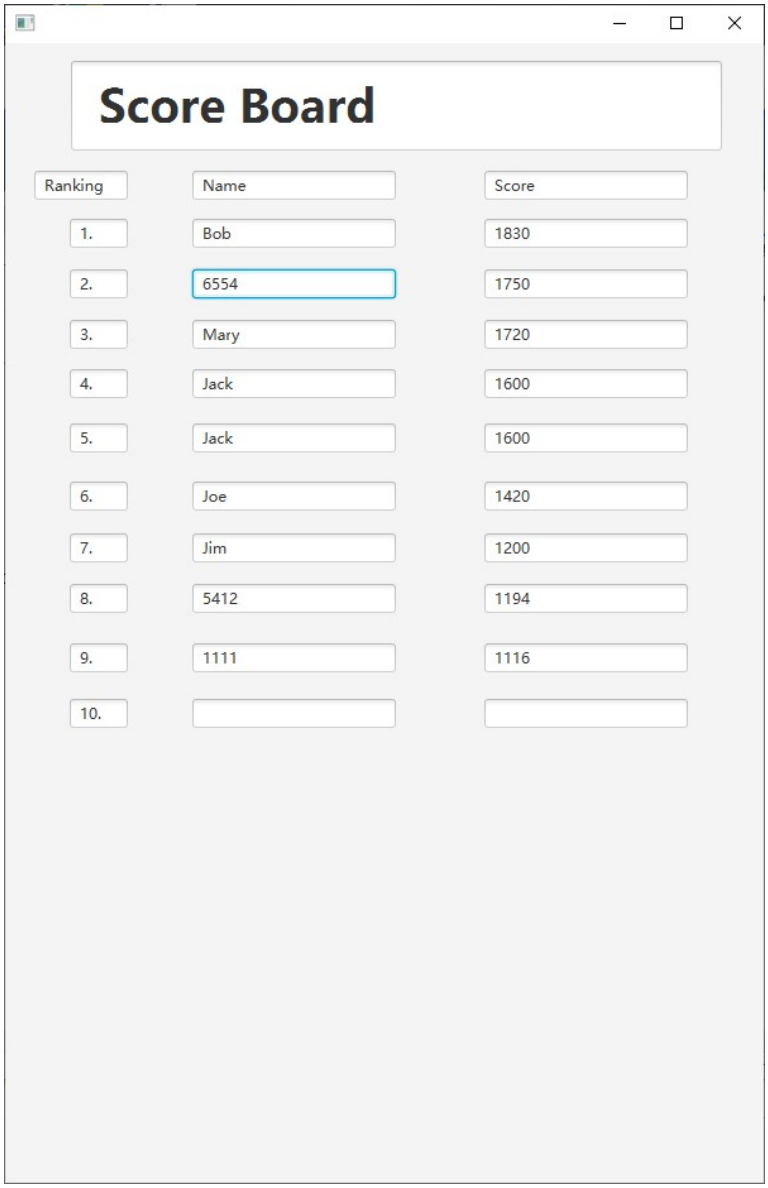
It will show that “You have done nothing!”, if you keep clicking the button more than one time.

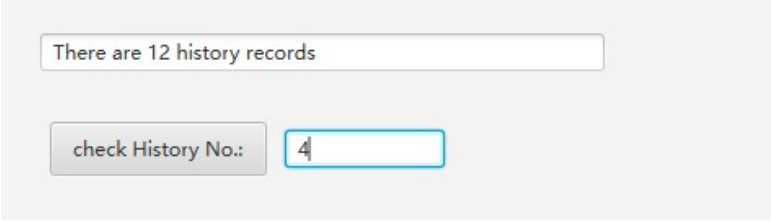


5.The function of checking previous ranking list



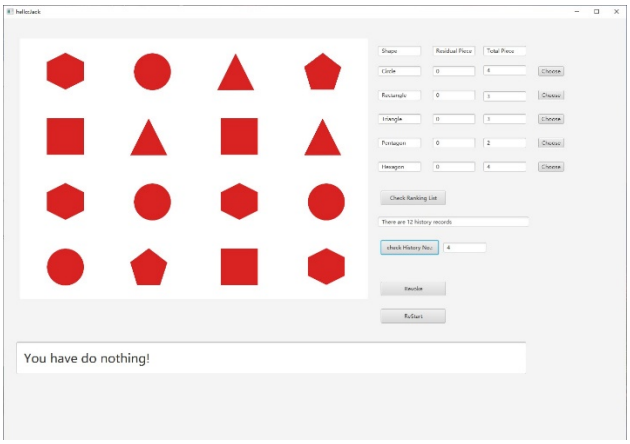
Clicking the Check Ranking List button, you can check the ranking list.



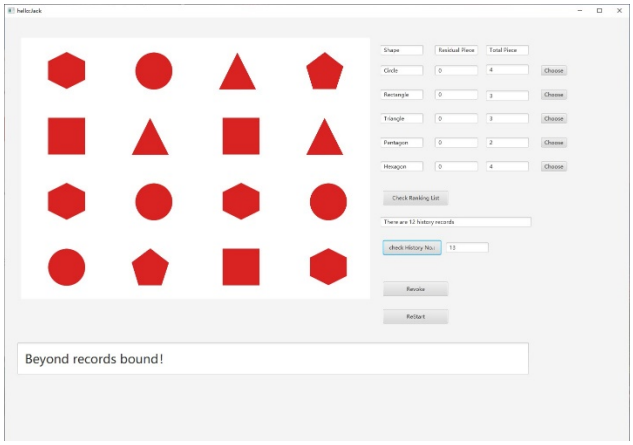


Input a number before you click the button “check History No.”, and you will see the specific

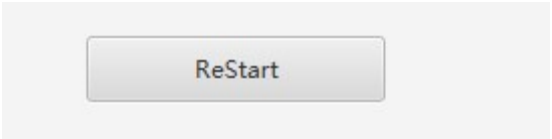
history record.



At this time, the parameters of residual piece, total piece on the right will also be reloaded.



If the history to be loaded exceeds the maximum number of records indicated above, it will shows that “Beyond records bound!”.



Clicking this button, you can restart the game immediately.

As for the unit tests, I added the comments about all unit tests in the code to help understand purposes of each them.