



Pexeso: A Memory Game

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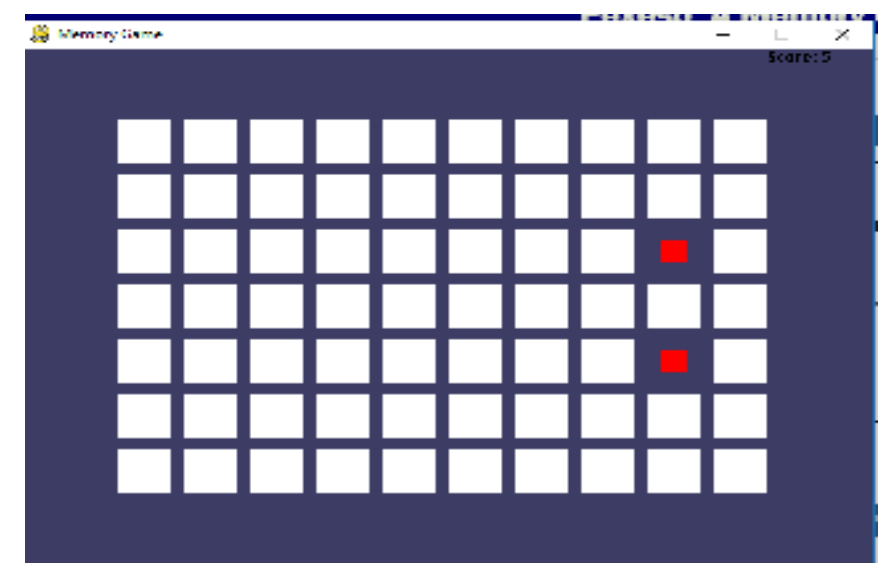
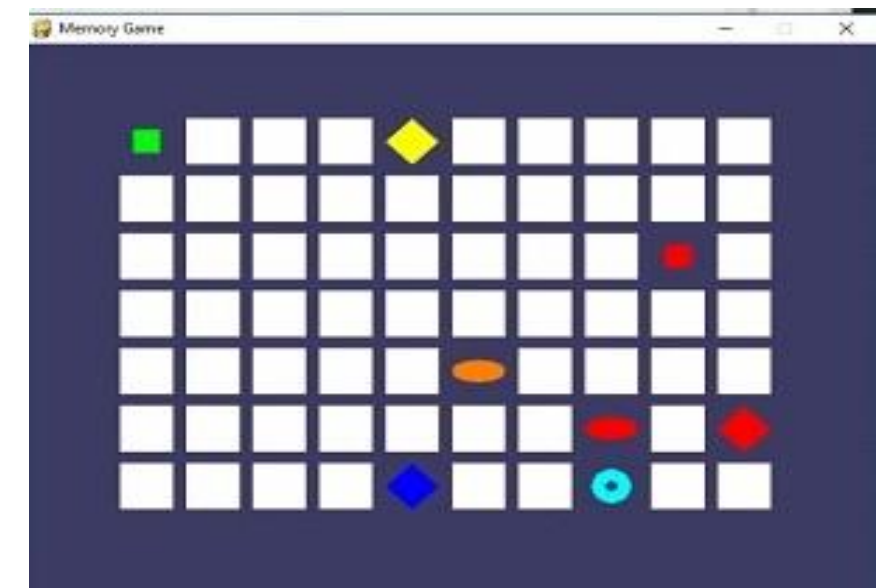
Abstract

The Game basically follows a game loop which is an infinite loop. And each iteration of the loop is considered as a frame and based on a player's choice ,instructions of the game are executed. The main objective of our game is that there are boxes of random colors and shapes shown for once and then they are covered. Now, a player based on his memory should try to reveal all pairs of boxes on the board. If he matches a pair of boxes correctly, he gets addition of some points to his score, but if he matches two boxes that are not of same type then he gets reduction in score. The player's mission is to finish the board with all revealed boxes with the maximum score possible.

Methods

Different Methods Used in this game are:

- 1.) def generateRevealedBoxesData(val): Sets the value of Revealed boxes to be true (default=false) when two boxes are revealed.
- 2.) def getRandomizedBoard():Creates a randomised board everytime game starts.
- 3.) def leftTopCoordsOfBox(boxx, boxy):returns pixel coordinates of a box.
- 4.) def gameWonAnimation(board): Sets animation when the game is completed.
- 5.) def hasWon(revealedBoxes):Returns the Boolean value whether the game has been won or not.
- 6.) def coverBoxesAnimation(board, boxesToCover): Sets animation to cover boxes if they are not of the same type.



Implementation Discussion

Implementation:

We initialise the game surface where the game elements can be displayed. Various variables have been used to store colour of boxes, shape of boxes, player's score, revealed status of boxes, status of winning etc. Now when the game starts a randomised board is created and displayed. Each boxes is assigned a random color and shape and boxes are revealed for a short duration of time and covered again. Now ,based on player's memory if he selects two boxes of same type those two boxes are revealed and Score increments by 5, else boxes are again hidden and score is decremented by 1 unless score is already zero. If player finds all pairs of boxes, he wins the game and game winning animation is played.
Total No. of Pairs of boxes: 35
Max Score for this game: 175
Min Score for this game: 0

Conclusion

Conclusion:

We can conclude that the game follows a certain flow path:
Setup Game->[Poll and Handle Events(i.e. Make Randomised Board)->Draw Surface(i.e. Display Board and Score)->Update Game Elements]
->Close game

*[...]=Game Loop

References

References:

- 1.) <https://cs.wikipedia.org/wiki/Pexeso>
- 2.) http://programarcadegames.com/index.php?chapter=foreword&lang=en#section_0
- 3.) <http://www.pygame.org/docs/tut/intro/intro.html>

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