Workshop-9(Dungeon)[Group Work]

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Information Data structure

{

ReturnValue[3]={A, B, X};

Rotation[R]; // R represent total roataion made at each hallway end

CheckRoom[N]; // N represent number of rooms checked in each hallway

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}

```

>>Data Structure

ReturnValue= {A, B, X}

Rotation (total rotation made at each hallway end)

CheckRoom[N];( number of rooms checked in each hallway)

>>Main Process

1.start Journey

2.Declare variable Battery, Move, CheckRoom, Steps

3.Set total Time= 4 hours/240 minute

4.Set hallway distance to 45 steps

5.set Each Move= 5 steps

6.start Moving

7. Make entry in room A.

8. Initialize the following terms:

Random Binary = off

Make Move = off

Check winner = 0

Clear Board = off

Tie = off

9. Make "Random Binary = On"(means activate it) to return 1 or 2.

10. Check the return value.

(a) if return value = 1, player 1 will start tic-tac-toe.

(b) if return value = 2, player 2 will start tic-tac-toe.

11. Prompt the player who would start game to select 'O' or 'X'.

(a) if player selects O, go to step 7.

(b) if player selects X, go to step 8.

12. Starting 'player O' and other 'player X’, go to step 9.

13. Starting 'player X' and other 'player O’, go to step 9.

14. Activate Make Move till 9 squares become full.

15. Activate Check winner.

16. Is there any winner (means two squares matching sequentially)?

(a) if yes, store the identity of winner and activate Clear Board, go to

step 12.

(b) if no, activate Tie and Clear Board.

17. Did one player won three times?

(a) if yes, set Total Time = 3, go to step 18.

(b) if no, go to step 9.

18. Total Time = 1 \* Make Move Activation Time + 2 \* Tie activation time + 5 \*

each time player 1 loss

19. Display Total Time in minutes.

20. Make entry in room B.

21. Room has game known as 'Hang-Person'.

22. Check if hidden Random Word is generated?

(a) yes, game start and go to step 23.

(b) no, go to step 21.

23. Display Random Word with underscore (underline)

24. Prompt player to guess correct letter

25. Check if player guess the correct letter?

(a) yes, display 'high probability of guessing' and return 1

(b) no, display 'less probability of guessing' and return -1

26. Check if guess word match?

(a) yes, return 1

(b) no, return 0

27. Make entry in Hallway

28.Call Move Function

29.If want to explore room

i. Yes: Call CheckRoom Function

ii.No: Go to step 31

30.If total Steps = 45

i. Yes: Call Change Direction Function

ii. No: Go to step 28

31.Record the time for the exploring as 'explore Time'

32.if (explore Time || (explore Time- time in exploring rooms)) <= (total Time)/2

i. Yes: Call Turn Around Function

ii. No: Go to step 28

33.Return to staircase landing

34.Exit the basement

35.End Main function

>>Function Move

1.start Move

2.Move only in forward direction

3.For every one move

I. Record and Increment Distance by 5 steps

ii.Deduct 2 mins from total Time

4.End Move Function

>>Function CheckRoom

1.Start CheckRoom [0]

2.Call Random Search Function [black box]

3.Determine the ReturnValue by 'Random Search Function'

4.if ReturnValue [0] = 'A'

i. Yes: Call Explore Room 'A’, Go to step 7

ii.No: Go to step 3

5.if ReturnValue [1] = 'B'

i. Yes: Call Explore Room 'B’, Go to step 7

ii.No: Go to step 3

6.if ReturnValue [2] = 'X'

i. Yes: No need of Exploring Room, Go to step 7

ii.No: Go to step 3

7.Get out of the room

8.Call Move Function

9.End CheckRoom Function [0]

>>Function Change Direction

1.Start Change Direction

2.Declare total Steps, rotation[N]

3.Determine the total Steps

4.if totalteps = 45

i. Yes: Go to step 5

ii. No: Go to step 3

5.prompt to choose LEFT or RIGHT

6.Record to rotation

7.Rotates to the 90 degree (LEFT/RIGHT)

8.Set time used, and distance covered to 0

9.if first rotation [0] is LEFT

i. Yes

a. Second rotation [1] is automatically RIGHT

b. Set the rotation [1] to RIGHT and repeat the step 7

ii.No: Go to step 5

10.Loop from step 4 to step 9

11. Record every rotation as Rotation [0], Rotation [1] .... Rotation[N}

12.End Change Direction Function

>>Function Turn Around

1. start Turn Around

2.Rotate To 180 degree

3. Set time used, and distance covered to 0.

4. Start walking Forward

5. Call Change Direction Function

6. Call Change Direction Function

7. End Turn Around Function

1. Check the return value.
2. (a) if return value = 1 , player 1 will start tic-tac-toe.
3. (b) if return value = 2 , player 2 will start tic-tac-toe.
4. Check the return value.
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13. Workshop-9(Dungeon)[Group Work]
14. -------------------
15. Name: Mahamad Mustapha
16. Student ID# 171613219
17. ========================
18. ````````````````````````````````````````````````````````````````````
19. Information Data structure
20. {
21. ReturnValue[3]={A, B, X};
22. Rotation[R]; // R represent total roataion made at each hallway end
23. CheckRoom[N]; // N represent number of rooms checked in each hallway
24. }
25. ````````````````````````````````````````````````````````````````````
26. -------------
27. Main Function
28. -------------
29. 1.start Journey{Main Function}
30. 2.Declare variable Battery, Move, CheckRoom, Steps
31. 3.Set totalTime= 4 hours/240 minute
32. 4.Set hallway distace to 45 steps
33. 5.set Each Move= 5 steps
34. 6.start Moving
35. 7. Make entry in room A.
36. 8. Initialize the following terms:
37. RandomBinary = off
38. MakeMove = off
39. Checkwinner = 0
40. ClearBoard = off
41. Tie = off
42. 9. Make "RandomBinary = On"(means activate it) to return 1 or 2.
43. 10. Check the return value.