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**AI LAB 2**

## Comparison between Minimax and alpha-beta pruning

Depth	minimax		alphabeta			
	Nodes	Time	Nodes	Time		
1	7	0	7	0.015625		
2	56	0.03125	20	0.015625		
3	399	0.140625	75	0.03125		
4	2800	0.84375	245	0.078125		
5	19607	5.5	1662	0.16797		
6	137256	35.60938	7346	0.6484		
7	960799	259.0156	18574	1.5586		

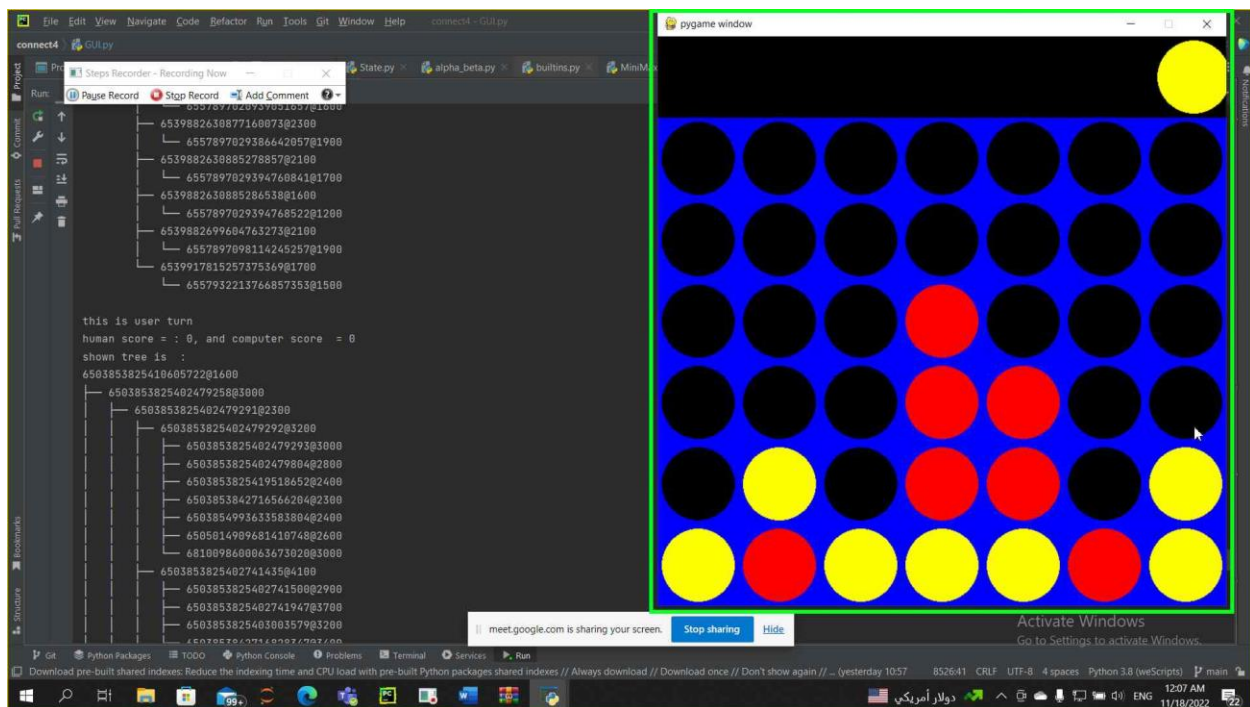
Alphabeta traverses different number of nodes each time

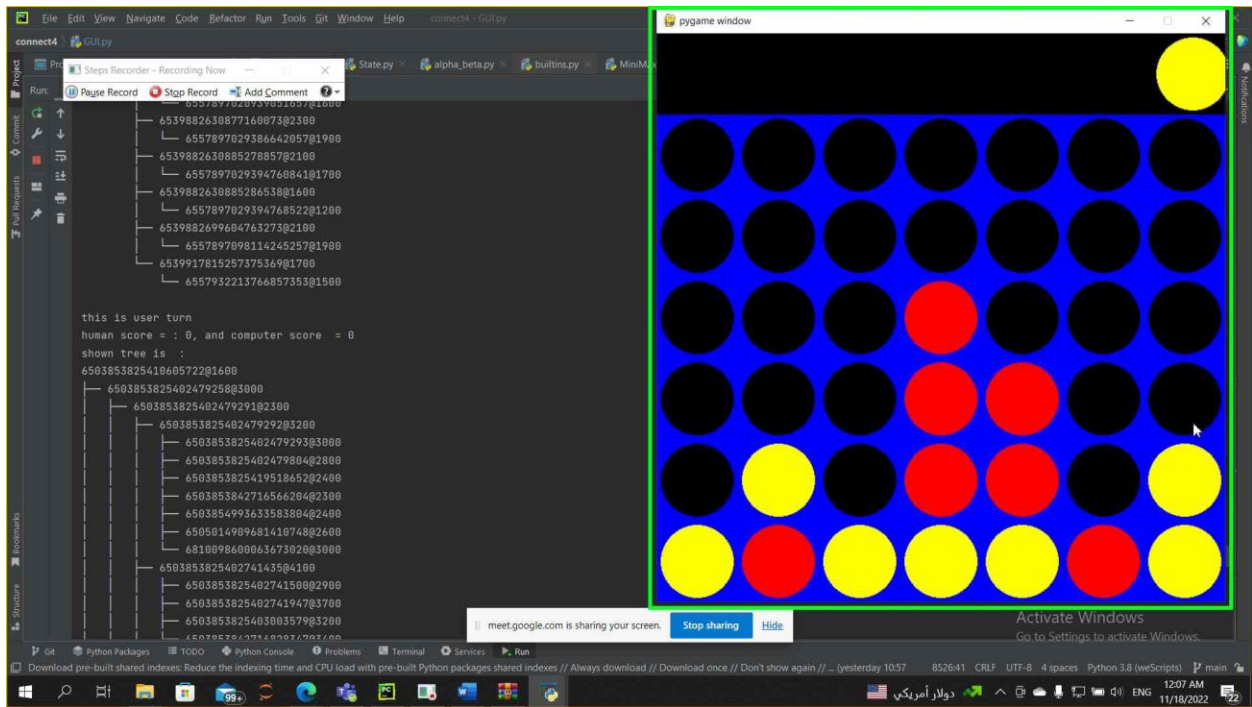
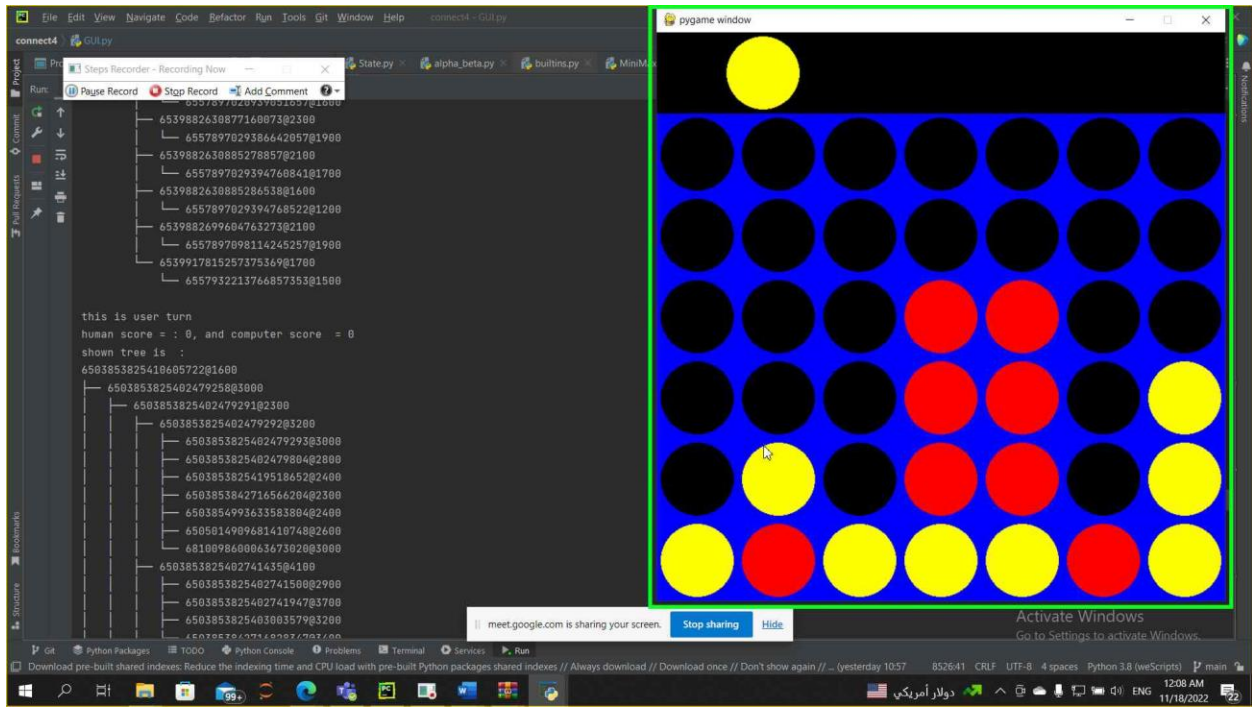
This is an initial estimate

Minimax traverses all possible states for a given depth

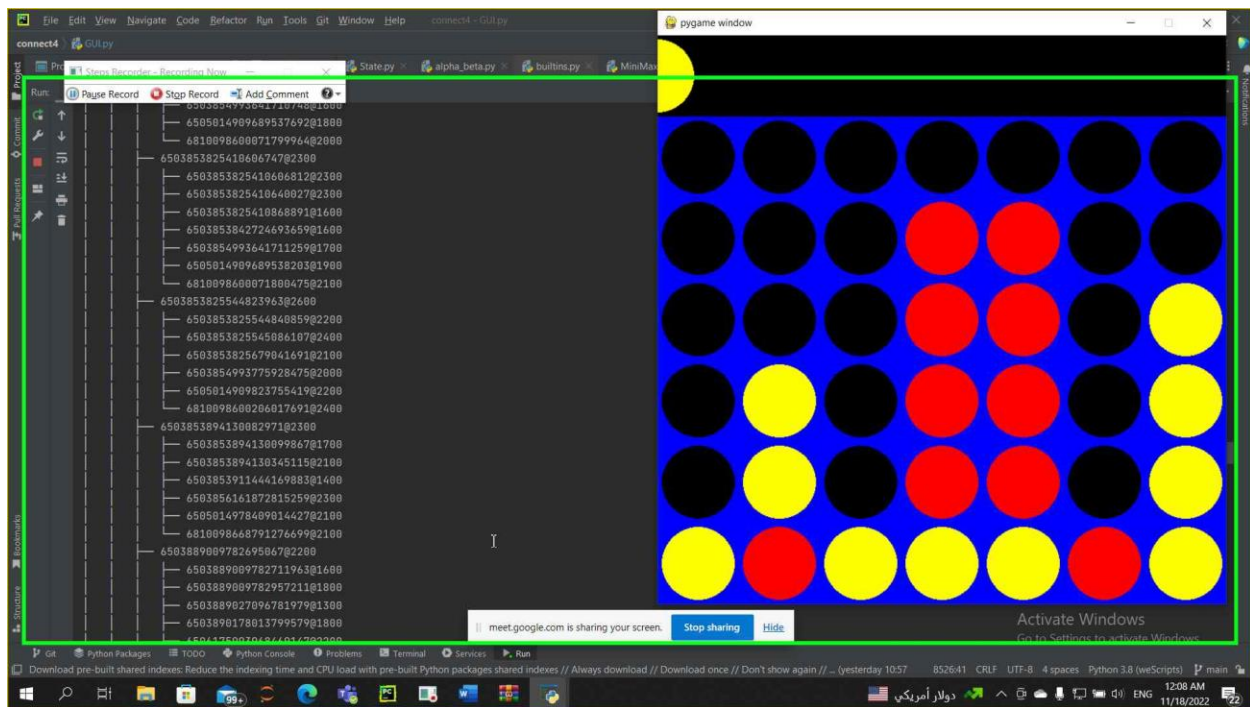
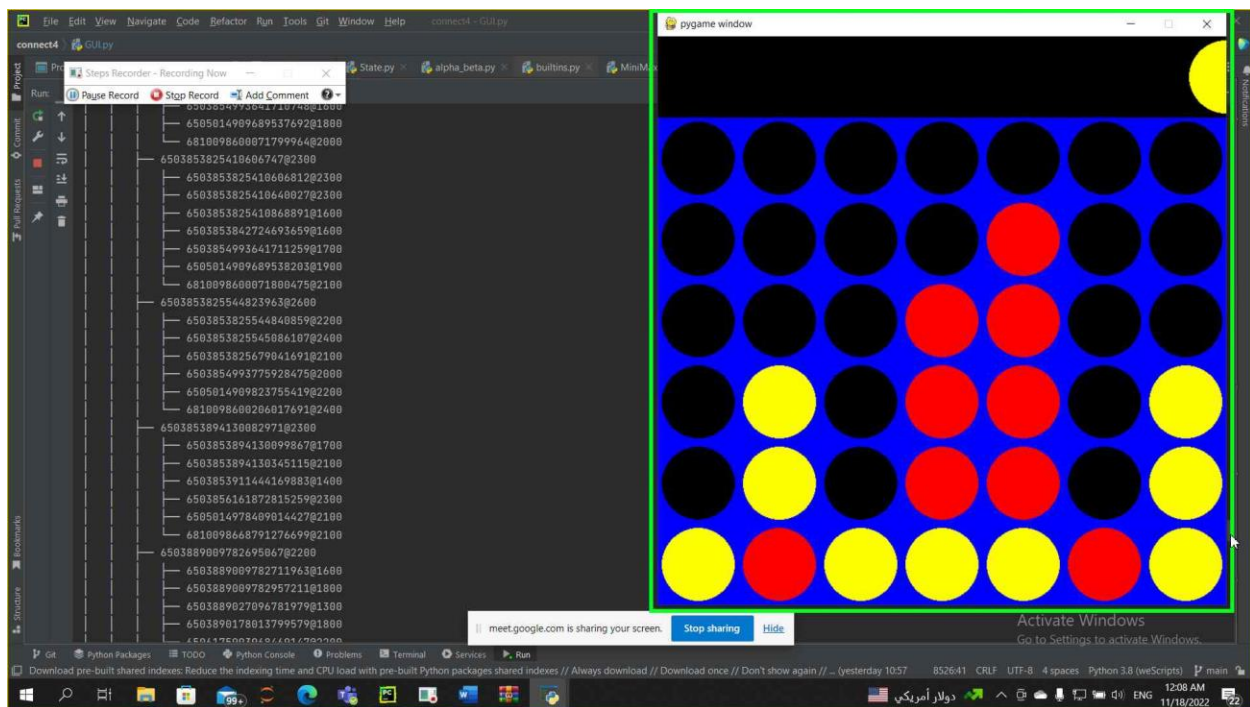
These are initial plays

## Minimax without pruning:

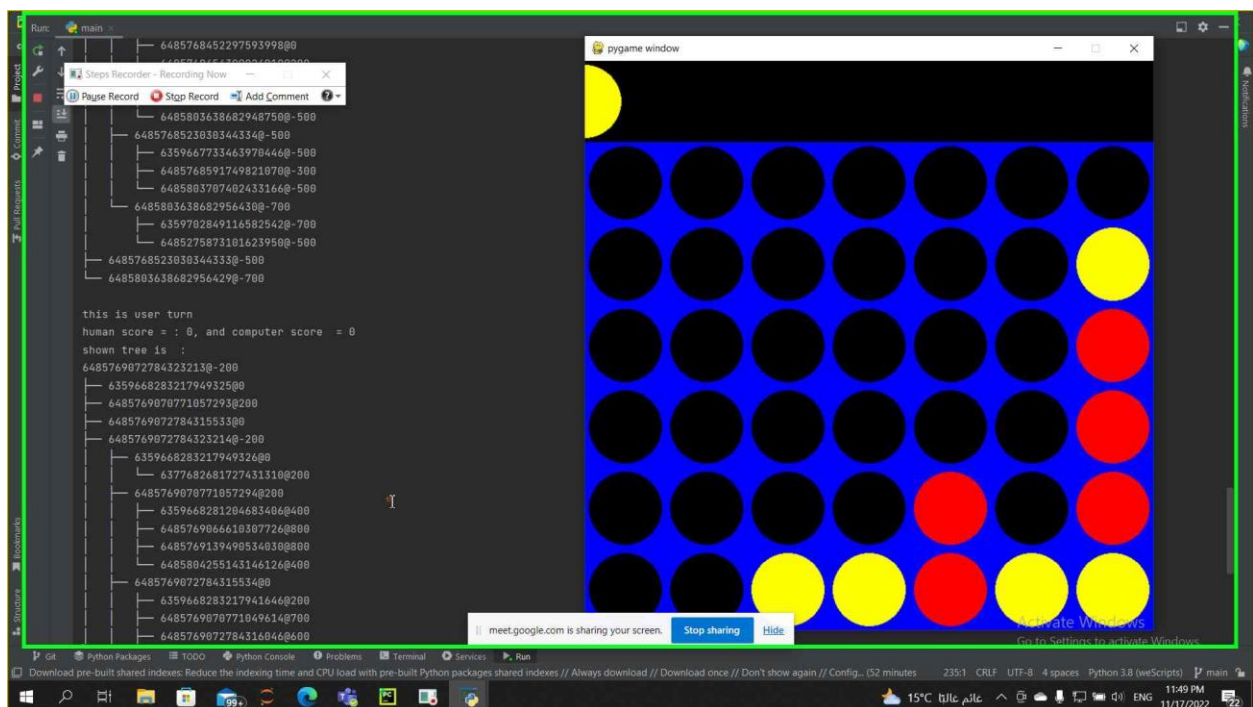
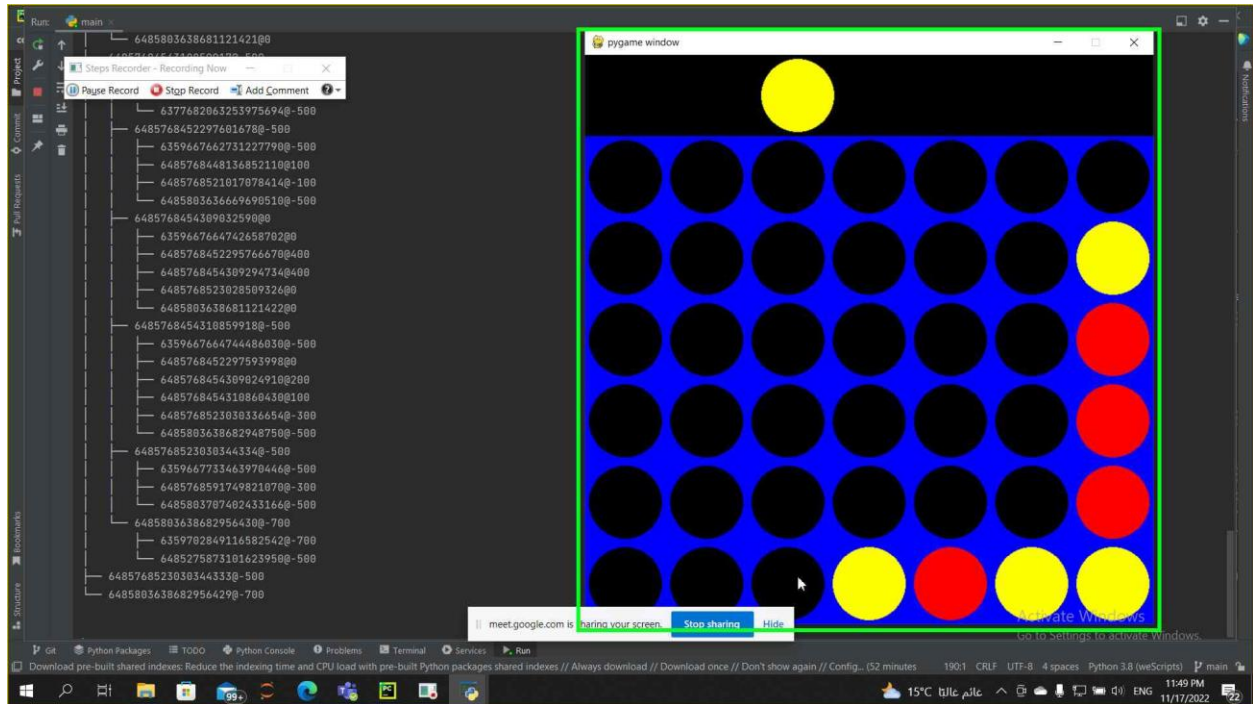


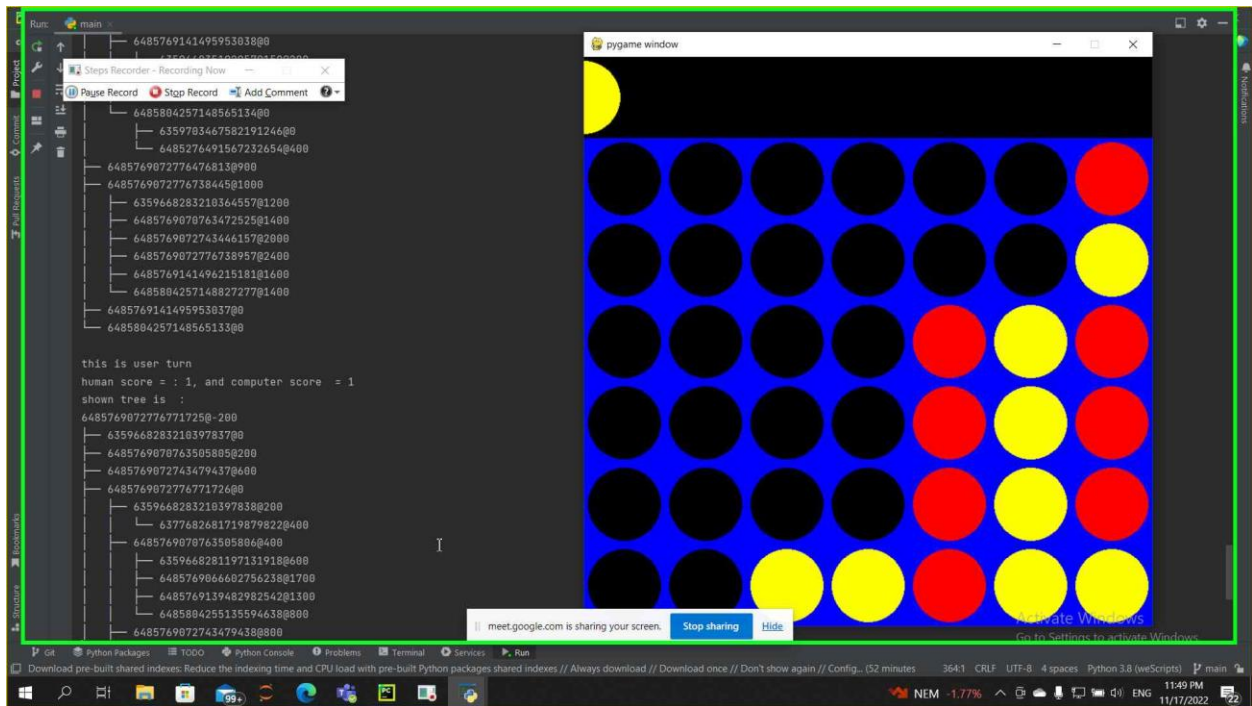
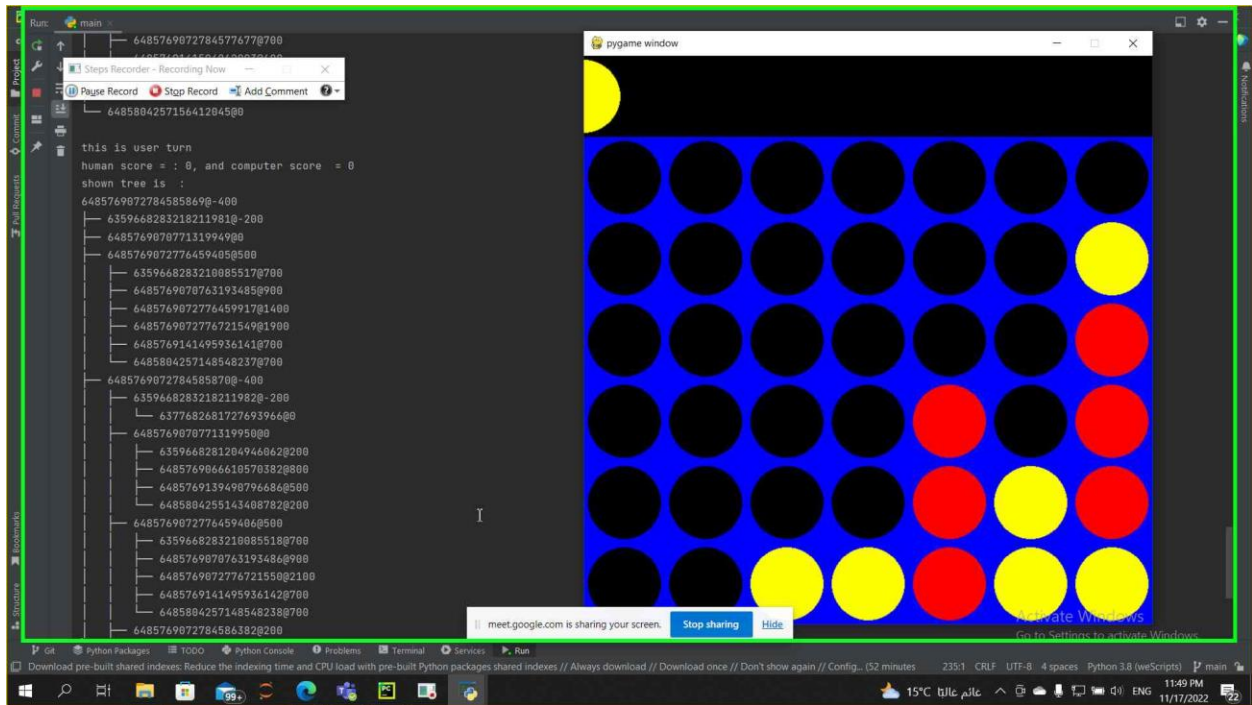






**Minimax with pruning :-**





### **Data structure used :-**

- Dictionary
- List
- 2d array

### **Algorithms applied :-**

- Minimax without pruning
- Minimax with pruning
- A heuristic function was used in both cases to estimate the case of the state