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Milestone 3 Change the value of d and study how the performance of your code changes

I have selected two values of depth d, 3 and 5 to study the effects on the program performance with change in d.

Output of program execution:

The output of the execution of the programs are shown below.

```
PS C:\Users\keert\OneDrive\Documents\S30\2048ai> python3 .\milestone_3.py

==================  FINAL BOARD  ==================

 4  | 16 | 8  | 4
-------------------
 8  | 64 | 2  | 32
-------------------
 32 |256 |128 | 16
-------------------
 4  | 16 |512 | 2

Depth d : 3
Maximum score : 6712
Total run time of the game : 3.970170259475708

=================================================
```

Fig 1

```
PS C:\Users\keert\OneDrive\Documents\S30\2048ai> python3 .\milestone_3.py

==================  FINAL BOARD  ==================

 4  |256 | 16 | 2
-------------------
 16 |512 |1024| 8
-------------------
 64 | 16 | 64 | 2
-------------------
 2  | 8  |128 | 4

Depth d : 5
Maximum score : 15240
Total run time of the game : 275.98682475090027

=================================================
```

Fig 2

On changing d, the time taken by the algorithm exponentially increases as observed in Fig 1 and Fig 2. In Fig 1, for depth 3, the time taken for code execution is 3.97 seconds, but when depth is 5, the program, although results in a better score, run time increases to 275.98 seconds.

Per the algorithm, the score is expected to increase as we increase depth, and we observe that in practice too.

As the time increases exponentially with increasing depth, I could not run the program for depth >= 8 as my personal computer could not support that.