SELEN ERDOĞAN 210104004131 Homework

PROGRAM DAİMİ OLARAK KULLANICIYA ÇÖZÜLMESİ MÜMKÜN OLAN 8 PUZZLE GAME SUNAR. GEREKLİ FONKSİYONLAR İLE OLUŞTURULUP PRINT EDİLEN BOARD YAPILARI ÇÖZÜLEBİLİR OLUP OLMADIĞI KONTROL EDİLEREK KULLANICIYA SORULUR.
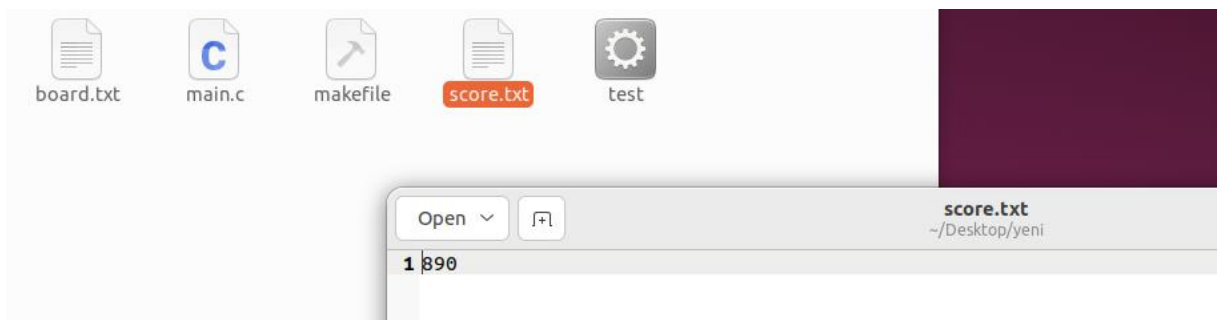
KULLANICININ SEÇTİĞİ HERHANGİ BİR SAYI VE YÖN EĞER BOARD YAPISINA UYGUN DEĞİLSE INVALID MODE İLE KULLANICIDAN TEKRARDAN HAMLE GİRMESİ BEKLENİR.

```
vboxuser@Ubuntu:~/Desktop/yeni$ make
---------------------------------
Cleaning...
---------------------------------
Compiling...
---------------------------------
Running the tests....
=====================================================================
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 1
Welcome to the 8-puzzle game!
The puzzle has been shuffled. Good luck!
1 5
4 6 8
7 2 3
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 0
Game ended. Goodbye!
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 1
Welcome to the 8-puzzle game!
The puzzle has been shuffled. Good luck!
4 1 6
7 5 2
8 3
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 0
Game ended. Goodbye!
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 1
Welcome to the 8-puzzle game!
The puzzle has been shuffled. Good luck!
1 2 3
8 7 5
  4 6
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 8-U
Invalid move. Please try again.
1 2 3
8 7 5
```

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KULLANICI OYUNU BİTİRDİĞİNDE TOTAL MOVES VE SCORE EKRANA BASTIRILIR. AYNI ZAMANDA SCORE.TXT DOSYASINA KAYIT YAPILIR.

BOARD.TXT İÇERİSİNDE İSE KULLANICININ HER YAPTIĞI HAMLE BASTIRILMIŞ ŞEKİLDEDİR.

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```
1 1 2 3
2 8 7 5
3 0 4 6
4
5 1 2 3
6 8 7 5
7 0 4 6
8
9 1 2 3
10 0 7 5
11 8 4 6
12
13 1 2 3
14 0 7 5
15 8 4 6
16
17 1 2 3
18 8 7 5
19 0 4 6
20
21 1 2 3
22 8 7 5
23 0 4 6
24
25 1 2 3
26 8 7 5
27 4 0 6
28
29 1 2 3
30 8 7 5
31 4 0 6
32
33 1 2 3
34 8 0 5
35 4 7 6
36
37 1 2 3
38 8 0 5
39 4 7 6
40
41 1 2 3
42 0 8 5
43 4 7 6
44
45 1 2 3
```

```
44
45 1 2 3
46 0 8 5
47 4 7 6
48
49 1 2 3
50 4 8 5
51 0 7 6
52
53 1 2 3
54 4 8 5
55 0 7 6
56
57 1 2 3
58 4 8 5
59 7 0 6
60
61 1 2 3
62 4 8 5
63 7 0 6
64
65 1 2 3
66 4 0 5
67 7 8 6
68
69 1 2 3
70 4 0 5
71 7 8 6
72
73 1 2 3
74 4 5 0
75 7 8 6
76
77 1 2 3
78 4 5 0
79 7 8 6
80
81 1 2 3
82 4 5 6
83 7 8 0
84
85 1 2 3
86 4 5 6
87 7 8 0
88
```

BÖYLELİKLE KULLANICI HEM YAPTIĞI HAMLELERİ HEMDE ALDIĞI PUANI TXT DOSYALARINDAN OKUYABİLİR DURUMA GELİR.
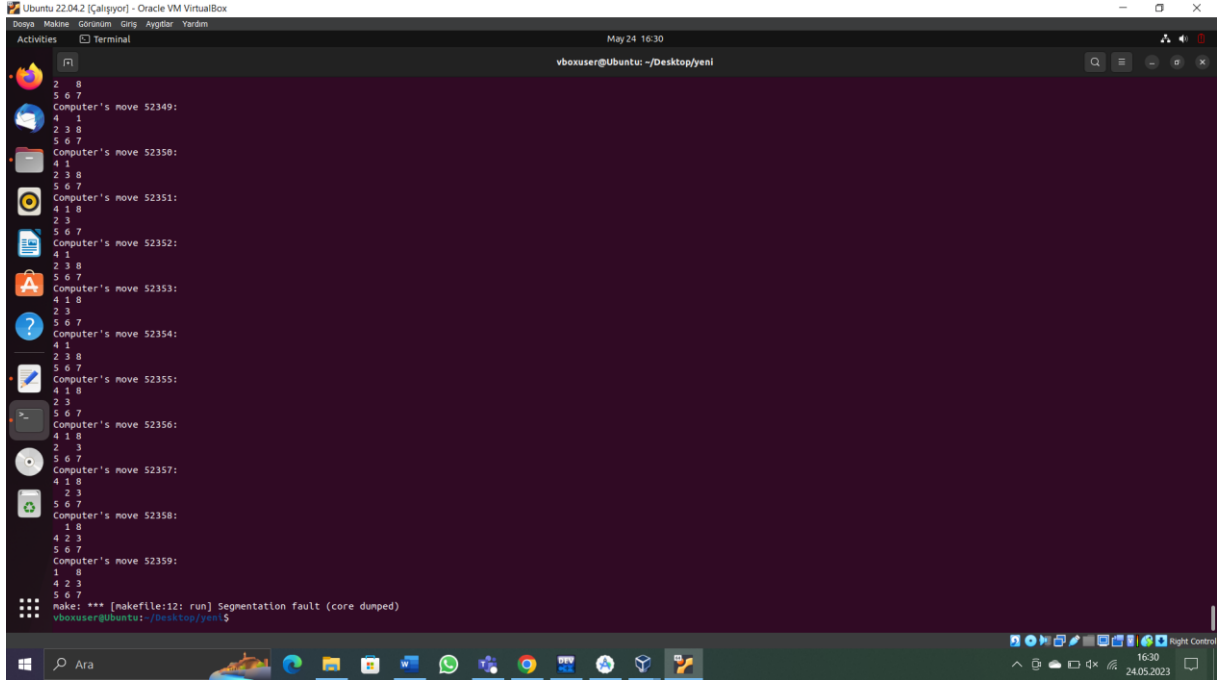
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```
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 1
Welcome to the 8-puzzle game!
The puzzle has been shuffled. Good luck!
1 2 3
4 5 6
  7 8
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 7-L
1 2 3
4 5 6
7   8
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 8-L
Congratulations! You solved the puzzle.
Total moves: 2
Score: 980
New best score! Score saved to file.
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 
```

YENİ BİR OYUN AÇTIRILIP TEKRARDAN KULLANICIYA HAMLE YAPTIRILDI. BEST SCORE
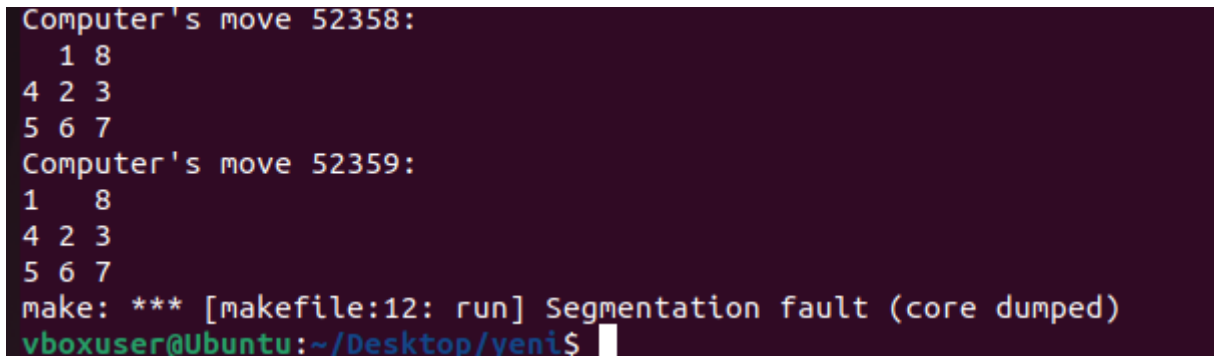GÖRÜNTÜLENME OPSİYONU SEÇİLDİ.

```
4 5 6
7   8
Enter the number and direction you want to move (e.g., 5-D), or 0 to exit: 8-L
Congratulations! You solved the puzzle.
Total moves: 2
Score: 980
New best score! Score saved to file.
----- 8-Puzzle Game -----
1. Play the game as a user
2. Finish the game with PC
3. Show the best score
4. Exit
Enter your choice: 3
Best score: 980
----- 8-Puzzle Game -----
1. Play the game as a user
```

OYUNU BİLGİSAYARIN ÇÖZMESİ OPSİYONU SEÇİLDİ.

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```
Computer's move 52358:
  1 8
4 2 3
5 6 7
Computer's move 52359:
1   8
4 2 3
5 6 7
make: *** [makefile:12: run] Segmentation fault (core dumped)
vboxuser@Ubuntu:~/Desktop/yeni$
```

ÖDEVDE DE İSTENİLEN GİBİ RECURSIVE FONKSİYON YAPISI İLE FONKSİYONLARIMI OLUŞTURDUM. BİLGİSAYAR GEREKLİ MEMORYE SAHİP OLDUĞUNDA PUZZLE ÇÖZÜLEBİLİYOR FAKAT BİLGİSAYARIMDA HAFIZA SORUNU OLDUĞU İÇİN SEGMENTATION FAULT HATASI İLE KARŞILAŞTIM. ULIMIT GİBİ BAZI COMMANDLER İLE 4 MİLYON GİBİ BİR RAKAMDA BİLGİSAYAR ÇÖZÜME ULAŞTIRMIŞTIR.

BİLGİSAYARIN ÇÖZMEYE ÇALIŞTIĞI DURUMDA BOARD.TXT DOSYASI

Open ∨   ⊞

```
⊦18847 5 6 7
⊦18848
⊦18849 4 1 0
⊦18850 2 3 8
⊦18851 5 6 7
⊦18852
⊦18853 4 1 8
⊦18854 2 3 0
⊦18855 5 6 7
⊦18856
⊦18857 4 1 8
⊦18858 2 3 0
⊦18859 5 6 7
⊦18860
⊦18861 4 1 8
⊦18862 2 0 3
⊦18863 5 6 7
⊦18864
⊦18865 4 1 8
⊦18866 2 0 3
⊦18867 5 6 7
⊦18868
⊦18869 4 1 8
⊦18870 0 2 3
⊦18871 5 6 7
⊦18872
⊦18873 4 1 8
⊦18874 0 2 3
⊦18875 5 6 7
⊦18876
⊦18877 0 1 8
⊦18878 4 2 3
⊦18879 5 6 7
⊦18880
⊦18881 0 1 8
⊦18882 4 2 3
⊦18883 5 6 7
⊦18884
⊦18885 1 0 8
⊦18886 4 2 3
⊦18887 5 6 7
⊦18888
⊦18889 1 0 8
⊦18890 4 2 3
⊦18891 5 6 7
⊦18892
```