CSE241 HOMEWORK #5 REPORT

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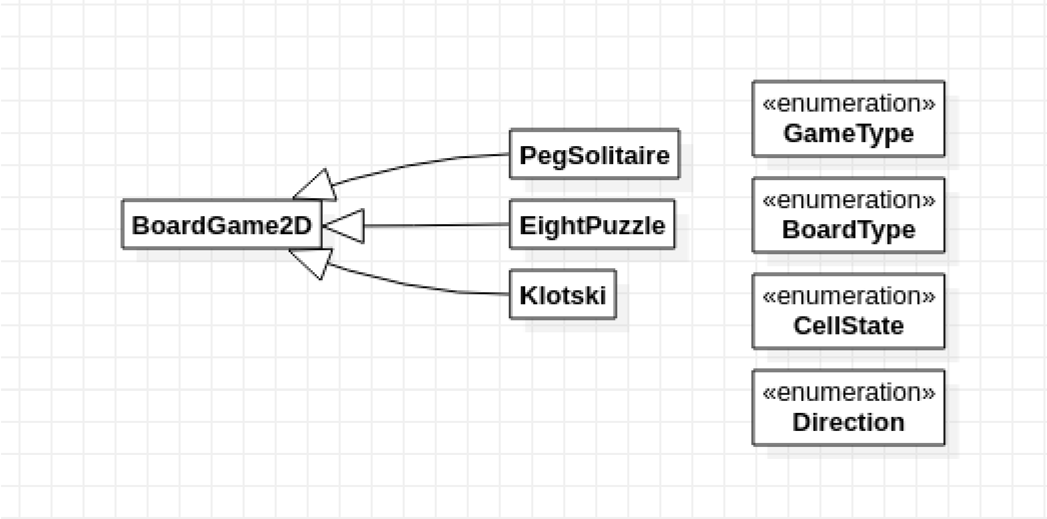
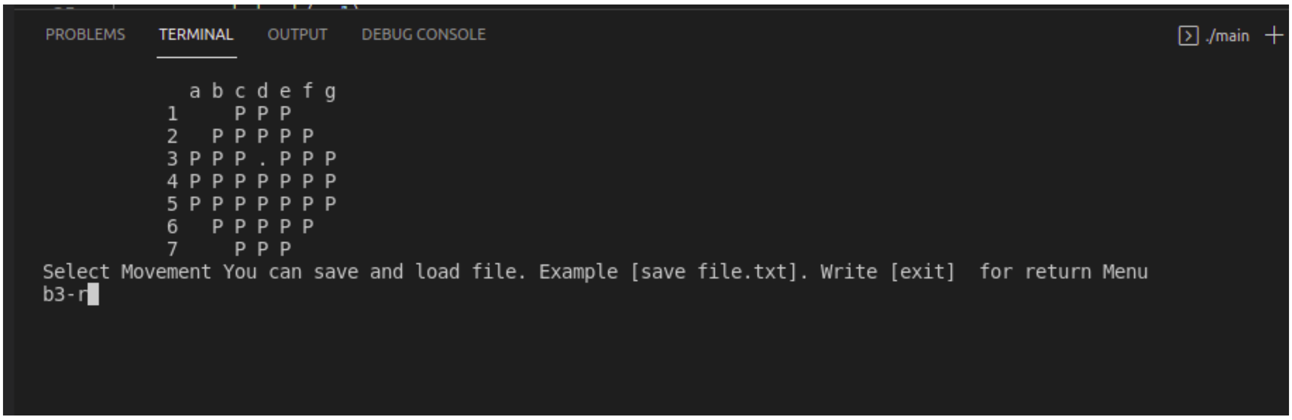
Class Diagram

Absract class is BoardGame2D. PegSolitarie , EightPuzzle and Klotski Class take inheriance form BoardGame2D.



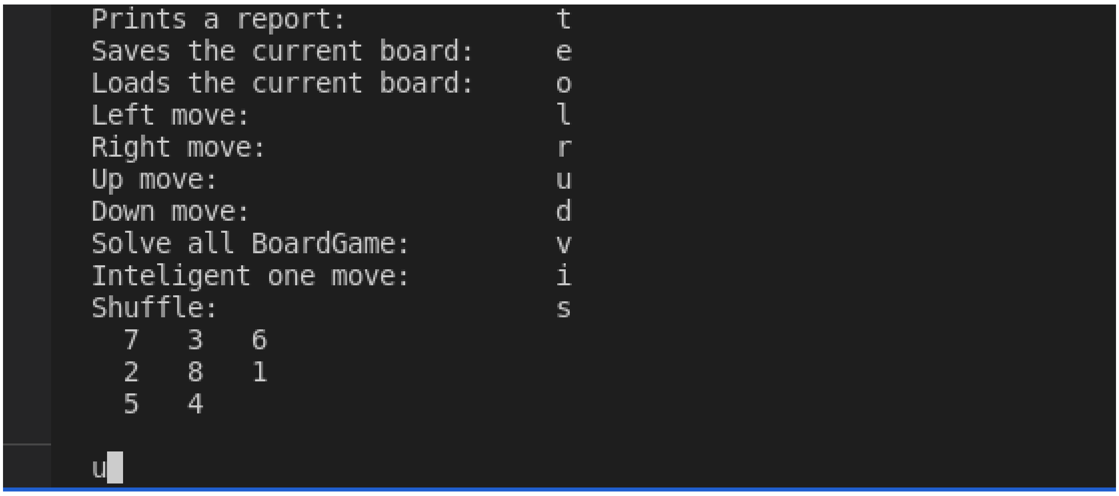
Game Input String Type

1-) PegSolitarite: Game input is same recent homework. For example “b3-r”



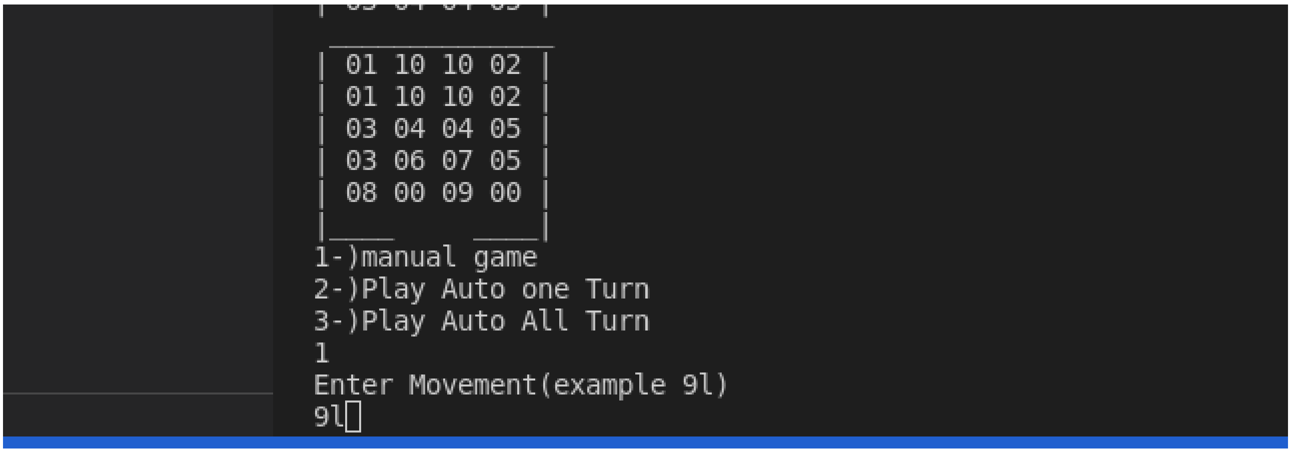
```
             a b c d e f g
           1     P P P
           2   P P P P P
           3 P P P . P P P
           4 P P P P P P P
           5 P P P P P P P
           6   P P P P P
           7     P P P
Select Movement You can save and load file. Example [save file.txt]. Write [exit]  for return Menu
b3-r
```

2-)EightPuzzle : Game input type alredy write game menu. Game menu picture is below. You can write input only letter for movement.



```
Prints a report:             t
Saves the current board:     e
Loads the current board:     o
Left move:                   l
Right move:                  r
Up move:                     u
Down move:                   d
Solve all BoardGame:         v
Inteligent one move:         i
Shuffle:                     s
  7   3   6
  2   8   1
  5   4

u
```

3-)Klotski: Each number same set is one block . You movemet to block, you must select block number and direction. **Firstly block number ande second direction.** Example



```
 ______________
| 01 10 10 02 |
| 01 10 10 02 |
| 03 04 04 05 |
| 03 06 07 05 |
| 08 00 09 00 |
|____     ____|
1-)manual game
2-)Play Auto one Turn
3-)Play Auto All Turn
1
Enter Movement(example 9l)
9l
```

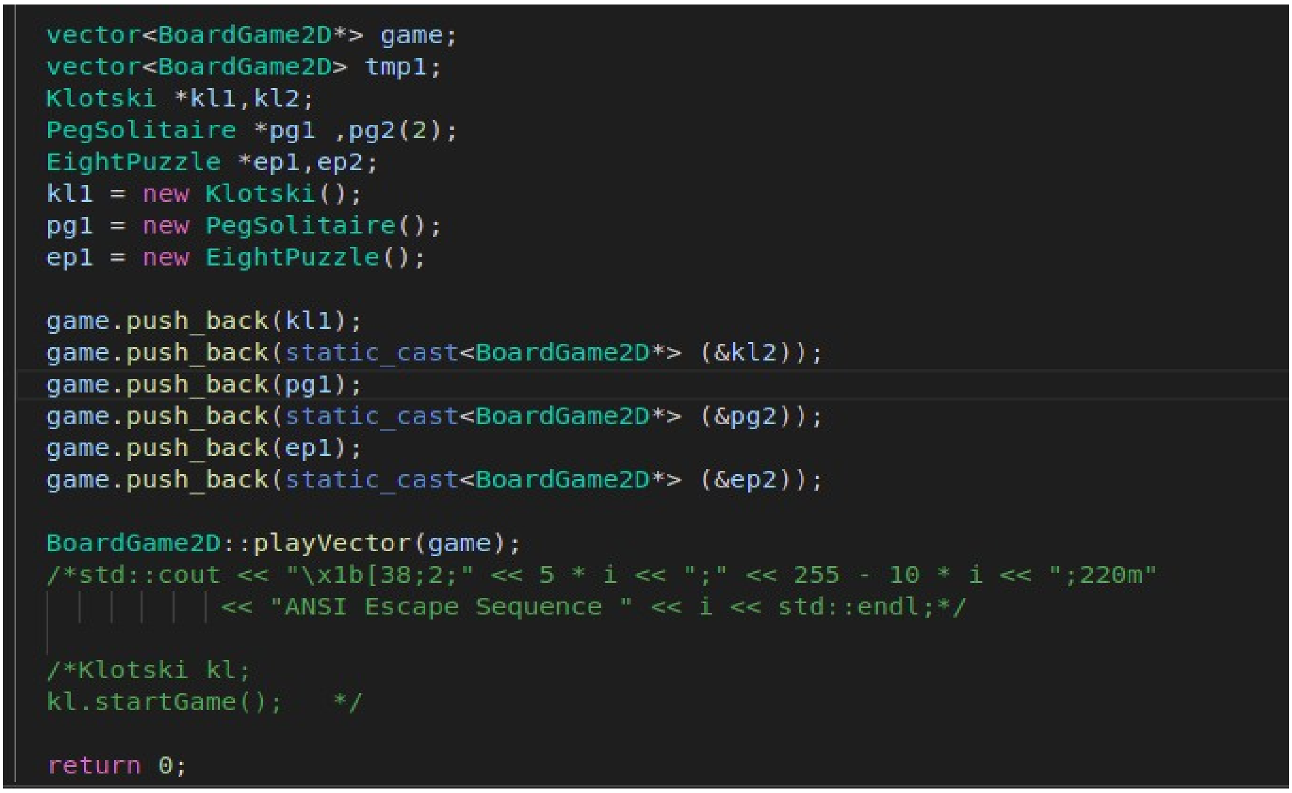
SCORE FUNCTION

1-)PegSolitarite: I calculere remain peg.

2-)Npuzzle: I calculate each block how many far true pozition. And return it.

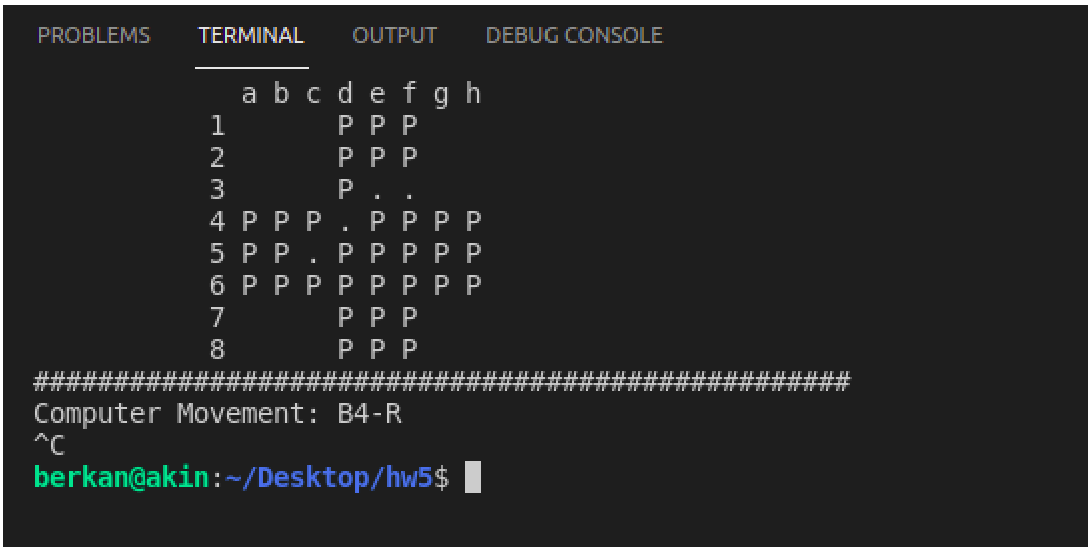
3-)Klotsiki: I calculate main block how many far out . Return it.

Test Case

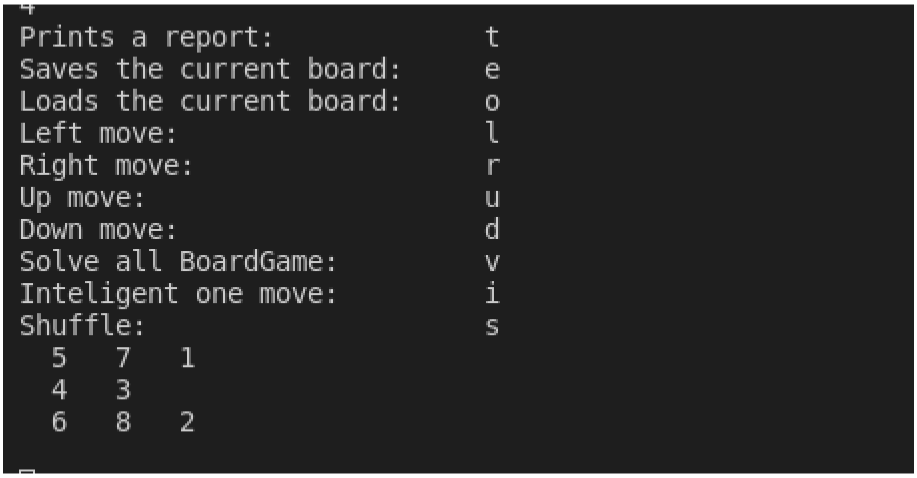


```
vector<BoardGame2D*> game;
vector<BoardGame2D> tmp1;
Klotski *kl1,kl2;
PegSolitaire *pg1 ,pg2(2);
EightPuzzle *ep1,ep2;
kl1 = new Klotski();
pg1 = new PegSolitaire();
ep1 = new EightPuzzle();

game.push_back(kl1);
game.push_back(static_cast<BoardGame2D*> (&kl2));
game.push_back(pg1);
game.push_back(static_cast<BoardGame2D*> (&pg2));
game.push_back(ep1);
game.push_back(static_cast<BoardGame2D*> (&ep2));

BoardGame2D::playVector(game);
/*std::cout << "\x1b[38;2;" << 5 * i << ";" << 255 - 10 * i << ";220m"
           << "ANSI Escape Sequence " << i << std::endl;*/

/*Klotski kl;
kl.startGame();   */

return 0;
```

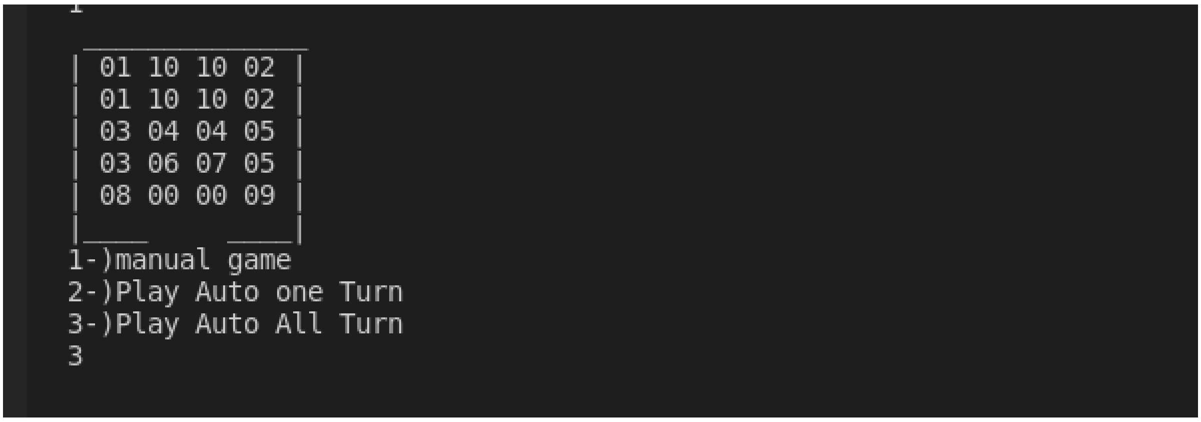
Test code is in main function. Each class object twice created and tested. All games work has without error.



```
             a b c d e f g h
           1       P P P
           2       P P P
           3       P . .
           4 P P P . P P P P
           5 P P . P P P P P
           6 P P P P P P P P
           7       P P P
           8       P P P
###################################################
Computer Movement: B4-R
^C
berkan@akin:~/Desktop/hw5$ 
```



```
4
Prints a report:             t
Saves the current board:     e
Loads the current board:     o
Left move:                   l
Right move:                  r
Up move:                     u
Down move:                   d
Solve all BoardGame:         v
Inteligent one move:         i
Shuffle:                     s
  5   7   1
  4   3
  6   8   2
```



```
1
  ______________
 | 01 10 10 02 |
 | 01 10 10 02 |
 | 03 04 04 05 |
 | 03 06 07 05 |
 | 08 00 00 09 |
 |____    _____|
1-)manual game
2-)Play Auto one Turn
3-)Play Auto All Turn
3
```

Missing Parts

I cant understant 2 function `playUser()` and `ostream operator<<(ostream & stream,const BoardGame2D&)` ostream opereator how use this homework. So I cant wrote two function.