HACETTEPE UNIVERSITY

COMPUTER ENGINEERING DEPARTMENT

DATA STRUCTURES LAB

ASSIGNMENT 1

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AIM

Our goal is to make a solitaire game from scratch.

Note

I used the c 11 version of c ++ in this assignment. Even though my homework was running perfectly in Microsoft, but dev gave a segmentation error. My move to foundation pile "number", open "number", move pile "number" "number" "number" and exit commands work perfectly. But I had trouble with move waste "number", open from stock commands.

I will be glad if you take these into consideration while evaluating the assignment.

1. **Problems**
- In this assignment our problem is to be able to do this application using only arrays.
- One of our other problems is to do it according to the klondike version. Because there are some rules in the klondike version.
- For example, a few of these rules are like the king coming on an empty battery or just black on the red.
- Since there is no deletion in array, it directs to some solutions while writing.

2. **Explanation**

My approach to this task was as follows.

- After reading the files, I decided to use one-dimensional array for stock, waste and two-dimensional arrays for piles.
- Then I wrote the functions of the game commands.
- In this assignment, I learned better the functions of c ++ such as substr, find, compare.
- In this assignment, I reinforced the logic of array and matrices.
- This assignment showed me that c ++ and java are very similar languages and both are easy to use.

```
 1  |
 2  @@@ ___ ___ ___        ___ ___ ___ ___
 3  D07   @@@   @@@   @@@   @@@   @@@   @@@
 4        S11   @@@   @@@   @@@   @@@   @@@
 5              C01   @@@   @@@   @@@   @@@
 6              H10   @@@   @@@   @@@
 7                    C04   @@@   @@@
 8                          S08   @@@
 9                                D01
10
11  move to foundation pile 6
12
13  **************************************
14
15  @@@ ___ ___ ___        ___ D01 ___ ___
16  D07   @@@   @@@   @@@   @@@   @@@   @@@
17        S11   @@@   @@@   @@@   @@@   @@@
18              C01   @@@   @@@   @@@   @@@
19              H10   @@@   @@@   @@@
20                    C04   @@@   @@@
21                          S08   @@@
22
23  open 6
24
25  **************************************
26
27  @@@ ___ ___ ___        ___ D01 ___ ___
28  D07   @@@   @@@   @@@   @@@   @@@   @@@
29        S11   @@@   @@@   @@@   @@@   @@@
30              C01   @@@   @@@   @@@   @@@
31              H10   @@@   @@@   @@@
32                    C04   @@@   @@@
33                          S08   D03
34
```

Photo 1

```
move pile 0 0 5


**************************************


@@@  ___  ___  ___            ___  D01  ___  C01
       @@@   @@@   @@@   @@@   @@@   @@@
       S11   C05   @@@   @@@   @@@   @@@
                   @@@   @@@   @@@   @@@
                   H10   @@@   @@@   @@@
                   C04   @@@   @@@
                         S08   D03
                         D07


move pile 6 0 4


**************************************


@@@  ___  ___  ___            ___  D01  ___  C01
       @@@   @@@   @@@   @@@   @@@   @@@
       S11   C05   @@@   @@@   @@@   @@@
                   @@@   @@@   @@@   @@@
                   H10   @@@   @@@   @@@
                   C04   @@@   @@@
                   D03   S08
                         D07


open  6


**************************************


@@@  ___  ___  ___            ___  D01  ___  C01
       @@@   @@@   @@@   @@@   @@@   @@@
       S11   C05   @@@   @@@   @@@   @@@
                   @@@   @@@   @@@   @@@
                   H10   @@@   @@@   @@@
```

Photo2