

This is an addition to the original Blackjack340 program. The user can now choose between playing Blackjack or Klondike Solitaire. If the user chooses Klondike, the game starts by creating a deck, shuffling it, and distributing the cards into the tableaux (these were made into rows to take up less screen space) in increasing amounts. The player can draw cards from the draw pile, move cards into the foundations, and move cards between the tableaux to reveal the “face-down” cards (shown as ‘??’). The player wins when all the cards have been moved into their respective foundations.

For future stages of development, I would try to implement some kind of scoring system for Klondike games, which might keep track of things like how often the player draws cards or moves cards to the foundation piles. An option to undo moves would also be needed for players who want to aim for higher scores.

Although this version already has checks for valid moves, this could be improved upon with additional output to the player telling them why their move was invalid.

Another important feature that should be implemented is the option to choose a difficulty level. Since playing Klondike solitaire can often end up with unsolvable shuffles, an easy mode could probably be added by including a list of known solvable shuffles the program can randomly pick from to start a game with.

Program screenshots: (note: I needed to run the program in the terminal since the console for CLion does not support ANSI escape codes)

- Starting a game:

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C:\Users\Lenovo\OneDrive\Dr... X + v
Microsoft Windows [版本 10.0.26100.4061]
(c) Microsoft Corporation. 保留所有权利。

C:\Users\Lenovo\OneDrive\Documents\schoo\college\hw\semester 4\CSC340\group project\Blackjack340\cmake-build-debug>Blackjack340.exe
Which game would you like to play?
1.) Blackjack
2.) Klondike
Enter a number to choose: 2
List of piles:
- Tableaus: T1, T2, T3, T4, T5, T6, T7
- Draw pile: DP
- Foundations: SF (spades), HF (hearts), DF (diamonds), CF (clovers)

Draw pile: []
Foundations: [] [] [] []
T1: DJ
T2: ?? H1
T3: ?? ?? C7
T4: ?? ?? ?? CJ
T5: ?? ?? ?? ?? D5
T6: ?? ?? ?? ?? ?? D6
T7: ?? ?? ?? ?? ?? ?? H8

Options:
(0) Exit game
(1) Draw a card
(2) Move a card
Enter a number:
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- Moving cards:

<pre>Options: (0) Exit game (1) Draw a card (2) Move a card Enter a number: 2 Enter the pile to move a card from: T3 Enter the pile to move a card to: T7 Enter the number of cards to move (1-3): 1 Draw pile: [] Foundations: [] [H1] [] [] T1: DJ T2: D2 T3: ?? C9 T4: ?? ?? ?? CJ T5: ?? ?? ?? ?? D5 T6: ?? ?? ?? ?? ?? D6 T7: ?? ?? ?? ?? ?? ?? H8 C7</pre>	<pre>Options: (0) Exit game (1) Draw a card (2) Move a card Enter a number: 2 Enter the pile to move a card from: T7 Enter the pile to move a card to: T3 Enter the number of cards to move (1-8): 2 Draw pile: [] Foundations: [] [H1] [] [] T1: DJ T2: D2 T3: ?? C9 H8 C7 T4: ?? ?? ?? CJ T5: ?? ?? ?? ?? D5 T6: ?? ?? ?? ?? ?? D6 T7: ?? ?? ?? ?? ?? S8</pre>
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- Drawing cards:

<pre>Options: (0) Exit game (1) Draw a card (2) Move a card Enter a number: 1 Drawing back from the start of the draw pile... Draw pile: [] Foundations: [S1] [H2] [D2] [C2] T1: HK T2: DK CQ DJ C10 D9 S8 D7 S6 D5 C4 T3: T4: ?? ?? ?? CJ H10 C9 H8 C7 D6 S5 D4 C3 T5: ?? ?? ?? SJ T6: ?? ?? H4 S3 T7: ?? ?? ?? D8 S7</pre>	<pre>Options: (0) Exit game (1) Draw a card (2) Move a card Enter a number: 1 Draw pile: [DQ] Foundations: [S1] [H2] [D2] [C2] T1: HK T2: DK CQ DJ C10 D9 S8 D7 S6 D5 C4 T3: T4: ?? ?? ?? CJ H10 C9 H8 C7 D6 S5 D4 C3 T5: ?? ?? ?? SJ T6: ?? ?? H4 S3 T7: ?? ?? ?? D8 S7</pre>
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