

EECS 3311 Lab 4  
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The undo-redo pattern works by using a series of classes within the `abstract_ui` folder. Firstly starting with the command class, which is a deferred class that has the feature redo and undo. From there we can implement all the classes that require the redo and undo features. Which are the `move_down`, `move_left`, `move_right`, `move_up` undo and redo features. The undo command is a simple reverse of the original set board function. Which are the same as the preconditions for the move commands. The difficult part is when we need to implement the `solitaire_user_interface` partition of the lab. Which requires to use the history class. The history class an array class that saves all possible moves that the board has made when a command execute is called. By using the history class within the `solitaire_user_interface` class we can implement the final features for the features to work. Firstly starting with the undo feature, we will check if the item exist in the list, if it does then we call the item and move the history cursor back. By doing so, we will simply go back to the previous step as if nothing happened. As for the final redo, we will check if it is not the last item in the `array_list`, if it's not then we move the cursor forward. Which will allow us to redo the command.