GENERAL ALGORITHM

1. Login users
   1. Initialize a userList to store all users
   2. Add users to userlist given name and password
   3. Create a new class for new users to store their account information including name, password, sets and their study later cards
      1. Remove sets that are passed
      2. Overrides to remove set at index
      3. Add a set with only their name
      4. Override to adds a set with a name and cardList
      5. Find the index of a set in setList when given a name
      6. Getter for name of user
      7. Getter for password of user
   4. Find the index of a user in userlist when given a username and password
   5. Getter for userList
   6. Getter for user at index
2. Login page
   1. When login button action is performed
      1. Check to see if either the username or password field is empty, if it is, a warning message is displayed
      2. Check to see if login information is valid and open the home page
      3. If login information is incorrect, the fields are set to null for users to retry
   2. When sign up button action is performed
      1. Open sign up page to add an account
         1. When create account action button is performed
            1. Check to see if the username and password field is empty, if it is, a warning message is displayed. Check to see if confirm password field matches the password
            2. A new user is added to the userList with the inputted username and password details
            3. Open the login page to perform login with their new account
            4. When back button is performed, user is reduirected to login page
3. Sets
   1. Initialize a two dimensional CardArray to store all the cards in a user’s set
   2. The set has a name and its cards
   3. Getter for CardArray
   4. Removes cards at index
   5. Find the index of a card in cardList when given a term and definition
   6. Getter for cardList
   7. Getter for name of the set
4. Cards
   1. Initialize the term, definition, and boolean for study later terms
   2. Getter for term of the card
   3. Getter for definition of the card
5. Home page
   1. Adds the sets of a user to selection combo box
   2. Selection combo box and creates sets button is enabled; edit sets and game mode button is disabled
      1. Only when the selected item is not on the default “Select”, then all the options will be enabled for users to interact with
      2. Otherwise the edits sets and game mode button are still disabled
   3. When edits sets button action is performed
      1. Search through the users sets until it finds the one with the same name as in combo box
      2. Sets the current set as set index
      3. Opens the edit sets page
         1. Set the title field to the set name
         2. Declare card table as global
         3. Initialize a two dimensional list and updated cardlist
         4. Add all cards from card list to a card table
         5. When create sets action button is performed
            1. Check to see if title field is empty, if it is, a warning message is displayed; if it is empty, it will not create a set
            2. Delete current set and erase cardList
            3. If set already exists, add all cards from set to global cardList
            4. For every row in cardtable, a new card is made and added to cardList
            5. Creates a new set to replace the deleted one under same name with updated cardlist
            6. Opens home page and closes current screen passing along the current user
         6. When back action button is performed
            1. Open home page
         7. When add card button is performed
            1. The card with its term and definition are added to the table and reset the term and definition field to blank
         8. When remove buttons action is performed
            1. Get the value of the selected row and removes row from table
   4. When create sets button action is performed
      1. A new set is added to the user’s sets
      2. Opens the edits set page
         1. Refer to previous edit page actions performed
   5. When flashcard button action is performed
      1. Check to see the selected item from the combobox is equal to the users existing sets
      2. Open flashcard page that passes along the set and its cards
         1. Set the text on the first card to the first card item
         2. When the add term to study later action button is performed
            1. The term and definition of that card is added to a StudyLaterArray
         3. When the view study later page action button is performed
            1. Open study later page

Declare StudyTable as global

Add all study later cards from cardList to StudyTable

When home button action is performed

Open home page

* + - 1. When card button action is performed
         1. The card is “flipped” to show the definition linked to the card’s term
      2. When the go right button action is performed
         1. The next card’s term is displayed
         2. The progress field is updated to show the card’s index out of the card array’s length
         3. The progress bar is updated (more progress)
      3. When go left button action is performed
         1. The previous card’s term is displayed
         2. The progress field is updated to show the card’s index out of the card array’s length
         3. The progress bar is updated (less progress)
      4. When the back button action is performed
         1. Open the homepage