Lab #3: Healthy Coping Techniques

Overview: A patient has come to you, the lead doctor in the area, to seek a solution for a mystery ailment; they've already tried an array of drugs with a different doctor and nothing has worked. They've come to you for some alternative healthy coping techniques. In your efforts, you will need a method of tracking which techniques have already been prescribed. You can think of this program as a very simplified, non-persistent database that will record whether a patient has been prescribed a technique or not.

Assignment: As in your previous assignments, you will need to write a welcome message that displays useful information and options that a user will use to interact with. In addition, you must make efficient use of modules, functions, loops, and 2D-arrays. Below are some constraints your program must adhere to:

- Constants (type String):
    - *TECHNIQUES = {TECH_1_NAME, TECH_1_DESCRIPTION}, etc:* A global 2D array that contains the name and description of the techniques to be prescribed.
- In Main:
    - *boolean[] techniquePrescribed*: A local, 1D array that sits in main and will work in parallel to your global 2D array to keep track of a technique and if it has been prescribed.
- Techniques: use this data in your 2D global array.
    1. Meditation – to quiet the busy mind
    2. Yoga – to connect with your physical form
    3. Acupuncture – a pain and stress reliever
    4. Journaling – to improve awareness, mindfulness, and reflection
    5. Hiking – a cholesterol-lowering activity
    6. Reiki – to focus on your inner energy
    7. Positive Self-Talk – to boost confidence and self-worth
    8. Therapeutic Massage – to address the aches and stiffness
    9. Western Herbal Therapy – soothing teas, balms, and ointments
    10. Reflexology – to release pressure points
    11. Breathing Exercises – to slow down and oxygenate the body
    12. Laughter – an antidepressant
        …feel free to add more techniques if you'd like
- Program Options: These are the options that a user can choose from.
    1. Sign-in: A user must first sign-in to use the program. Throw an error message if they attempt to use the program before signing in.
    2. Prescription History: This will display all available techniques and show which ones have already been prescribed
    3. Prescribe Technique: This will prompt a user to enter which technique they would like to prescribe. If the technique has already been prescribed, throw an error message and ask them again to choose a technique, or enter zero to exit out to the main menu. *Note: you will find the "techniquePrescribed" array, mentioned above, useful for keeping track.*
    4. Reset Prescription History: This will clear all prescribed techniques.
    5. Exit Program: Should display a goodbye message and end naturally

You will be expected to catch invalid input from users such as but not limited to: invalid options, out of range techniques, not signing in, attempting to prescribe a technique that has already been prescribed, etc. Where necessary, use the String library function **.trim**() to remove the white space from Strings.

Supplied Classes: This class will be provided to you for your convenience - they serve as generalized functions. You must write your own functions that extend these and serve a specific purpose.

- IR.java: Contains functions that will ask users for input and returns them as an integer, String, double, etc.

Output: Here is some sample output from your program, provided so that you can see the expected formatting:

```
*************************************************
    Welcome to the Healthy Coping Techniques Program
*************************************************
Menu Options:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
2
Invalid entry. You must sign in before accessing data. Please sign in or Exit the program.

*************************************************
    Welcome to the Healthy Coping Techniques Program
*************************************************
Menu Options:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
33
Invalid entry. Try again.

*************************************************
    Welcome to the Healthy Coping Techniques Program
*************************************************
Menu Options:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program


(example continued on next page)
```

Please enter a menu option:
1
What is your name, doctor?
Smith

****
   Welcome to the Healthy Coping Techniques Program
****
Menu Options for Dr. Smith:
   1. Sign in as the doctor
   2. Display the Prescription History
   3. Prescribe Technique
   4. Reset Prescription History
   5. Exit the program

Please enter a menu option:
1
What is your name, doctor?
Sam Manilla

****
   Welcome to the Healthy Coping Techniques Program
****
Menu Options for Dr. Sam Manilla:
   1. Sign in as the doctor
   2. Display the Prescription History
   3. Prescribe Technique
   4. Reset Prescription History
   5. Exit the program

Please enter a menu option:
2

****
     Patient Coping Techniques History
****

Technique #1: Meditation   to quiet the busy mind
Technique #2: Yoga   to connect with your physical form
Technique #3: Acupuncture   a pain and stress reliever
Technique #4: Journaling   to improve awareness, mindfulness, and reflection
Technique #5: Hiking   a cholesterol-lowering activity
Technique #6: Reiki   to focus on your inner energy
Technique #7: Positive Self-Talk   to boost confidence and self-worth
Technique #8: Therapeutic Massage   to address the aches and stiffness
Technique #9: Western Herbal Therapy   soothing teas, balms, and ointments
Technique #10: Reflexology   to release pressure points
Technique #11: Breathing Exercises   to slow down and oxygenate the body
Technique #12: Laughter   an antidepressant

(*example continued on next page*)

```
**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
3
Please enter the Technique number you wish to prescribe (0 for menu).
55
Invalid entry. Try again.
Please enter the Technique number you wish to prescribe (0 for menu).
5
You have prescribed Hiking, a cholesterol-lowering activity.


**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
2


*********************************************
        Patient Coping Techniques History
*********************************************
Technique #1: Meditation                 to quiet the busy mind
Technique #2: Yoga                       to connect with your physical form
Technique #3: Acupuncture                a pain and stress reliever
Technique #4: Journaling                 to improve awareness, mindfulness, and reflection
Technique #5: Hiking                     a cholesterol-lowering activity – already prescribed
Technique #6: Reiki                      to focus on your inner energy
Technique #7: Positive Self-Talk         to boost confidence and self-worth
Technique #8: Therapeutic Massage        to address the aches and stiffness
Technique #9: Western Herbal Therapy     soothing teas, balms, and ointments
Technique #10: Reflexology               to release pressure points
Technique #11: Breathing Exercises       to slow down and oxygenate the body
Technique #12: Laughter                  an antidepressant


(example continued on next page)
```

```
**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
3
Please enter the technique number you wish to prescribe (0 for menu).
5
You have already prescribed Hiking, a cholesterol-lowering activity.
Please enter the technique number you wish to prescribe (0 for menu).
0


**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
4
Are you sure you want to reset the prescription history? (Y/N)
Y
The prescription history has been reset.


**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
2

(example continued on next page)
```

```
************************************************
        Patient Coping Techniques History
************************************************
Technique #1: Meditation                to quiet the busy mind
Technique #2: Yoga                      to connect with your physical form
Technique #3: Acupuncture               a pain and stress reliever
Technique #4: Journaling                to improve awareness, mindfulness, and reflection
Technique #5: Hiking                    a cholesterol-lowering activity
Technique #6: Reiki                     to focus on your inner energy
Technique #7: Positive Self-Talk        to boost confidence and self-worth
Technique #8: Therapeutic Massage       to address the aches and stiffness
Technique #9: Western Herbal Therapy    soothing teas, balms, and ointments
Technique #10: Reflexology              to release pressure points
Technique #11: Breathing Exercises      to slow down and oxygenate the body
Technique #12: Laughter                 an antidepressant


**************************************************
    Welcome to the Healthy Coping Techniques Program
**************************************************
Menu Options for Dr. Sam Manilla:
    1. Sign in as the doctor
    2. Display the Prescription History
    3. Prescribe Technique
    4. Reset Prescription History
    5. Exit the program

Please enter a menu option:
5

Signing out Dr. Sam Manilla.
----- Program Terminating -----
```

Hand In: You are required to submit your completed lab as a compressed .zip file which includes:

● Your completed Java source code file (*do not submit the .class file!*)
● Your test plan file that contains an appropriate number of test cases and all possible types of input and output. *(I expect that your test cases will document any possible invalid input that might be entered by the user – I WILL check your work!)*