



CS 341, Spring 2025
Homework 07
Due: Monday 4/28/2025 at 11:59pm

Overview

For this homework assignment, you will implement a password manager in Go, which is in the form of a map of slices.

The password manager will maintain a set of entries, where each entry contains the following information:

- the domain name of the site
- a person's username
- that person's password

Each domain name, aka website, will be a unique key into the map. The value for each key in the map will be a slice of Entry struct instances, where each Entry contains the site, username, and password.

There may be multiple users for a given website (each with their own password).

Description

The map starts as being empty, and the user is given the choice to keep it as empty or initialize the map using a file.

If the user chooses to enter the name of a file, try to open it. If there is an error opening the file, print a message indicating that. Otherwise, you may assume that each row in the file lists a website, username, and password (each separated by a single space). Read in each row and update the map accordingly.

After doing so, the user will be prompted to enter a command. The user should be able to enter multiple commands, until they enter "X", which will cause the program to finish running. If they enter a command which is not valid, print an error message indicating that.

If the user enters "L", your program should list the contents of the password map. Each website should be listed, followed by the usernames and passwords stored for that website. Do not worry about putting the output in a specific order – you may simply go through the map using `range`.

If the user enters "A", your program should prompt the user to enter a website, username, and password. You may assume that the user will enter all three pieces of information in the correct format. Add this entry to the map. If the website and username already exist in the map, print an error message indicating that it is a duplicate entry. Otherwise, either add a new key to the map or update an existing slice in the map.

If the user enters "R", your program should prompt the user to enter a website and username (username is optional). You may assume that the user will enter the information in the correct format. If they enter just a website, but there is more than one username for that website, print an error message indicating that they tried to remove multiple usernames. If there is only one username for the website, remove that user by updating the map accordingly. If they enter a website and username, remove that user by updating the map accordingly – if not present, print an error message indicating that the website was not found or that the username was not found.



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Sample Output

Below is sample output for the program, with user input shown in red.

Enter a filename if you would like to initialize the map using a file
(or enter N/A if the map should start as empty): **N/A**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **L**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **A**

Enter the site, username, and password (separated by spaces): **google.com sampleUser sampleP@s\$w0rd**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **L**

Website: google.com

sampleUser sampleP@s\$w0rd

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **A**

Enter the site, username, and password (separated by spaces): **google.com anotherUser
canYouGuessThis??**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **A**

Enter the site, username, and password (separated by spaces): **yahoo.com whoIsThis idk123**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user



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or X to exit the program.

Your choice --> L

Website: google.com

| | |
|-------------|-------------------|
| sampleUser | sampleP@s\$w0rd |
| anotherUser | canYouGuessThis?? |

Website: yahoo.com

| | |
|-----------|--------|
| whoIsThis | idk123 |
|-----------|--------|

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> R

Enter the site and username (separated by spaces, username optional): google.com

**Error: Attempt to remove multiple users. Try again.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> R

Enter the site and username (separated by spaces, username optional): amazon.com anotherUser

**Error: Attempt to remove a website that does not exist in the map. Try again.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> R

Enter the site and username (separated by spaces, username optional): yahoo.com isThisAUsername?

**Error: Attempt to remove a username that does not exist in the map. Try again.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> R

Enter the site and username (separated by spaces, username optional): google.com sampleUser

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> L

Website: google.com

| | |
|-------------|-------------------|
| anotherUser | canYouGuessThis?? |
|-------------|-------------------|

Website: yahoo.com



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whoIsThis

idk123

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> R

Enter the site and username (separated by spaces, username optional): yahoo.com

Select a menu option:

L to list the contents of the map

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> L

Website: google.com

anotherUser canYouGuessThis??

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> A

Enter the site, username, and password (separated by spaces): google.com anotherUser monkey

**Error: Attempting to add a duplicate entry. Try again.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> L

Website: google.com

anotherUser canYouGuessThis??

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> S

**Error, unknown command. Try again.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> x



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****Error, unknown command. Try again.**

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> **X**

Exiting program.

Enter a filename if you would like to initialize the map using a file
(or enter N/A if the map should start as empty): **thisfiledoesnotexist.txt**

Initializing map using file...

****Error opening file. Exiting program...**

exit status 1

Enter a filename if you would like to initialize the map using a file
(or enter N/A if the map should start as empty): **sample.txt**

Initializing map using file...

Done reading in file.

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> **L**

Website: testcloud.app

cloudguy CloudyDay99

Website: signupnow.dev

signup1 Signup123

Website: browserdemo.com

surfTester surfwave!!

Website: chatbotdemo.dev

chattie ch@tbox

Website: devplayground.org

playgroundDev PlayPlay09

Website: uiuxworld.com

ux_queen designQueen9

Website: fakeprofile.org

profake fak3it123

Website: uidev.xyz

ui_dev UIxUX2024

Website: samplestore.dev

buyer001 B!Gpurchase

Website: fakeintranet.org

corpUser corpSecure55

Website: clickandgo.net



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| | |
|--------------------------|----------------|
| testerGuy | clicknG0! |
| Website: codespace.net | |
| coderGirl | CodeSp@ce |
| Website: trythisapp.io | |
| appuserx | trytryagain |
| Website: webmockup.dev | |
| designerx | des1gnerPASS |
| Website: startuphub.org | |
| founderx | hustleHard2024 |
| Website: mysite.dev | |
| jane_doe | RedFish#99 |
| user_test1 | Test456 |
| safe_user | Safe4U2024 |
| hubUser | Hub_Life21 |
| Website: fakebank.net | |
| userbank | \$BankSecure |
| Website: learnhub.co | |
| student1 | learn@now |
| Website: loginzone.net | |
| logme logMe1n | |
| Website: localhost:3000 | |
| localUser | rootlocal |
| Website: mocksite.co | |
| hello_world | qwerty!@ |
| siteTester | M0ck@site |
| Website: netalpha.org | |
| alphaTester | Alphaz# |
| Website: emailtest.org | |
| mailtest | mail4test |
| Website: tryapp.net | |
| demo_user | TrymeNow |
| Website: datatester.com | |
| jsonlover | JSONlove88 |
| Website: mockupplace.org | |
| mockuser | mockU99! |
| Website: maildemo.com | |
| inboxme | mailbox_2024 |
| Website: quickmock.net | |
| quickie | Quick123 |
| Website: testpage.io | |
| pageViewer | viewerOnly |
| Website: fakesite.io | |
| dev_guy | pass_word1 |
| Website: betaweb.dev | |
| betaOnly | b3ta_test |
| Website: gamespotter.co | |
| gamer001 | playGame\$ |
| Website: samplezone.dev | |
| zoneUser | ZoneIt!2025 |
| Website: devconsole.io | |
| consoleAdmin | Cons0le4U |
| Website: trydemo.dev | |



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| | |
|--------------------------|---------------|
| trial_user | trial_n_error |
| Website: example.com | |
| user01 | Pass1234 |
| john doe | testPASS2023 |
| betaTester | Beta\$2024 |
| portalUser | WelCome1! |
| admin_demo | Adm1n123 |
| serverAdmin | adminSERV3R |
| Website: dummyapp.org | |
| testuser | LetMeIn! |
| coder123 | C0deC0de |
| streamerx | passPASS123 |
| api_user | API_KEY_789 |
| Website: sitebuilder.xyz | |
| alice89 | SitebuildR |

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **A**

Enter the site, username, and password (separated by spaces): **dummyapp.org testuser
LetMeChangeMyPassword!!!**

****Error: Attempting to add a duplicate entry. Try again.**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **R**

Enter the site and username (separated by spaces, username optional): **sitebuilder.xyz alice89**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **L**

| | |
|-------------------------|-------------|
| Website: testpage.io | |
| pageViewer | viewerOnly |
| Website: fakesite.io | |
| dev_guy | pass_word1 |
| Website: betaweb.dev | |
| betaOnly | b3ta_test |
| Website: gamespotter.co | |
| gamer001 | playGame\$ |
| Website: samplezone.dev | |
| zoneUser | ZoneIt!2025 |
| Website: devconsole.io | |
| consoleAdmin | Cons0le4U |



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Website: trydemo.dev
trial_user trial_n_error

Website: example.com
user01 Pass1234
johndoe testPASS2023
betaTester Beta\$2024
portalUser WelCome1!
admin_demo Adm1n123
serverAdmin adminSERV3R

Website: dummyapp.org
testuser LetMeIn!
coder123 C0deC0de
streamerx passPASS123
api_user API_KEY_789

Website: testcloud.app
cloudguy CloudyDay99

Website: signupnow.dev
signup1 Signup123

Website: browserdemo.com
surfTester surfwave!!

Website: chatbotdemo.dev
chattie ch@tbox

Website: devplayground.org
playgroundDev PlayPlay09

Website: uiuxworld.com
ux_queen designQueen9

Website: fakeprofile.org
profake fak3it123

Website: uidev.xyz
ui_dev UIxUX2024

Website: samplestore.dev
buyer001 B!Gpurchase

Website: fakeintranet.org
corpUser corpSecure55

Website: clickandgo.net
testerGuy clicknGO!

Website: codespace.net
coderGirl CodeSp@ce

Website: trythisapp.io
appuserx trytryagain

Website: webmockup.dev
designerx des1gnerPASS

Website: startuphub.org
founderx hustleHard2024

Website: mysite.dev
jane_doe RedFish#99
user_test1 Test456
safe_user Safe4U2024
hubUser Hub_Life21

Website: fakebank.net
userbank \$BankSecure

Website: learnhub.co



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```
student1      learn@now
Website: loginzone.net
logme  logMe1n
Website: localhost:3000
localUser     rootlocal
Website: mocksite.co
hello_world   qwerty!@
siteTester    M0ck@site
Website: netalpha.org
alphaTester   Alphaz#
Website: emailtest.org
mailtest      mail4test
Website: tryapp.net
demo_user     TrymeNow
Website: datatester.com
jsonlover     JSONlove88
Website: mockupplace.org
mockuser      mockU99!
Website: maildemo.com
inboxme       mailbox_2024
Website: quickmock.net
quickie       Quick123
```

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **R**

Enter the site and username (separated by spaces, username optional): **example.com**

****Error: Attempt to remove multiple users. Try again.**

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **A**

Enter the site, username, and password (separated by spaces): **fakebank.net wealthyPerson**

IH@aveSoMuch\$\$\$>>>

Select a menu option:

L to list the contents of the map
A to add a new entry to the map
R to remove a website and/or user

or X to exit the program.

Your choice --> **L**

```
Website: maildemo.com
inboxme      mailbox_2024
Website: quickmock.net
quickie      Quick123
Website: testpage.io
```



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| | | |
|----------------------------|---------------|---------------|
| | pageViewer | viewerOnly |
| Website: fakesite.io | dev_guy | pass_word1 |
| Website: betaweb.dev | betaOnly | b3ta_test |
| Website: gamespotter.co | gamer001 | playGame\$ |
| Website: samplezone.dev | zoneUser | ZoneIt!2025 |
| Website: devconsole.io | consoleAdmin | Cons0le4U |
| Website: trydemo.dev | trial_user | trial_n_error |
| Website: example.com | user01 | Pass1234 |
| | johndoe | testPASS2023 |
| | betaTester | Beta\$2024 |
| | portalUser | WelCome1! |
| | admin_demo | Adm1n123 |
| | serverAdmin | adminSERV3R |
| Website: dummyapp.org | testuser | LetMeIn! |
| | coder123 | C0deC0de |
| | streamerx | passPASS123 |
| | api_user | API_KEY_789 |
| Website: testcloud.app | cloudguy | CloudyDay99 |
| Website: signupnow.dev | signup1 | Signup123 |
| Website: browserdemo.com | surfTester | surfwave!! |
| Website: chatbotdemo.dev | chattie | ch@tbox |
| Website: devplayground.org | playgroundDev | PlayPlay09 |
| Website: uiuxworld.com | ux_queen | designQueen9 |
| Website: fakeprofile.org | profake | fak3it123 |
| Website: uidev.xyz | ui_dev | UIxUX2024 |
| Website: samplestore.dev | buyer001 | B!Gpurchase |
| Website: fakeintranet.org | corpUser | corpSecure55 |
| Website: clickandgo.net | testerGuy | clicknG0! |
| Website: codespace.net | coderGirl | CodeSp@ce |
| Website: trythisapp.io | appuserx | trytryagain |
| Website: webmockup.dev | | |



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| | | |
|--------------------------|---------------|-----------------------|
| | designerx | des1gnerPASS |
| Website: startuphub.org | founderx | hustleHard2024 |
| Website: mysite.dev | jane_doe | RedFish#99 |
| | user_test1 | Test456 |
| | safe_user | Safe4U2024 |
| | hubUser | Hub_Life21 |
| Website: fakebank.net | userbank | \$BankSecure |
| | wealthyPerson | IH@aveSoMuch\$\$\$>>> |
| Website: learnhub.co | student1 | learn@now |
| Website: loginzone.net | logme | l0gMe1n |
| Website: localhost:3000 | localUser | rootlocal |
| Website: mocksite.co | hello_world | qwerty!@ |
| | siteTester | M0ck@site |
| Website: netalpha.org | alphaTester | Alphaz# |
| Website: emailtest.org | mailtest | mail4test |
| Website: tryapp.net | demo_user | TrymeNow |
| Website: datatester.com | jsonlover | JSONlove88 |
| Website: mockupplace.org | mockuser | mockU99! |

Select a menu option:

L to list the contents of the map

A to add a new entry to the map

R to remove a website and/or user

or X to exit the program.

Your choice --> X

Exiting program.



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Running the Program

Once you have downloaded the files, and you have put them into the folder that you would like to work in, initialize the Go module by navigating to the folder in your terminal and then typing `go mod init main` into the terminal.

Then you should be able to run the program using the command `go run .` in your terminal.

Feel free to ask any of the instructional staff via drop-in hours and/or Piazza if you are having trouble with this.

Requirements

The structure of the program should consist of a single file, `main.go`, and is part of the `main` package. **You must adhere to the structure of the password manager being a map of Entry slices.** Do not change that data structure.

Submission

Login to Gradescope.com and look for the assignment "Homework 07". Submit your "main.go" file to that assignment.

You have unlimited submissions. Keep in mind that any manual grading for requirements, etc. will be based on your last submission unless you select an earlier submission for grading. If you do choose to activate an earlier submission, you must do so before the deadline.

After the project is due, the TAs will manually review the programs for style and adherence to requirements (0-100%). **Failure to meet a requirement will trigger a large deduction.**

No late submissions will be accepted for this assignment.

Academic Integrity

All work is to be done individually — group work is not allowed.

While we encourage you to talk to your peers and learn from them, this interaction must be superficial with regards to all work submitted for grading. This means you cannot work in teams, you cannot work side-by-side, you cannot submit someone else's work (partial or complete) as your own, etc. The University's policy is available here: <https://dos.uic.edu/community-standards/>

In particular, note that **you are guilty of academic dishonesty if you extend or receive any kind of unauthorized assistance.** Absolutely no transfer of program code between students is permitted (paper or electronic), and you may not solicit code from family, friends, or online forums (e.g. you cannot download answers from Chegg). Other examples of academic dishonesty include emailing your program to another student, sharing your screen so that another student may copy your work, copying-pasting code from the internet, working together in a group, and allowing a tutor, TA, or another individual to write an answer for you.

Academic dishonesty is unacceptable, and penalties range from a letter grade drop to expulsion from the university; cases are handled via the official student conduct process described at the link above.