

148: Passwords

In this challenge you will need to use the following skills:

- input and display data;
- lists;
- if statements;
- loops (while and for);
- subprograms;
- saving to and reading from a .csv file.



The Challenge

You need to create a program that will store the user ID and passwords for the users of a system. It should display the following menu:

```
1) Create a new User ID
2) Change a password
3) Display all User IDs
4) Quit
```

```
Enter Selection:
```

If the user selects 1, it should ask them to enter a user ID. It should check if the user ID is already in the list. If it is, the program should display a suitable message and ask them to select another user ID. Once a suitable user ID has been entered it should ask for a password. Passwords should be scored with 1 point for each of the following:

- it should have at least 8 characters;
- it should include uppercase letters;
- it should include lower case letters;
- it should include numbers; and
- it should include at least one special character such as !, £, \$, %, &, <, * or @.

If the password scores only 1 or 2 it should be rejected with a message saying it is a weak password; if it scores 3 or 4 tell them that "This password could be improved." Ask them if

they want to try again. If it scores 5 tell them they have selected a strong password. Only acceptable user IDs and passwords should be added to the end of the .csv file.

If they select 2 from the menu they will need to enter a user ID, check to see if the user ID exists in the list, and if it does, allow the user to change the password and save the changes to the .csv file. Make sure the program only alters the existing password and does not create a new record.

If the user selects 3 from the menu, display all the user IDs but not the passwords.

If the user selects 4 from the menu it should stop the program.



Problems You Will Have to Overcome

As existing data in .csv files cannot be edited and can only be read or added to, you will need to import the data as a temporary list into Python so you can make the changes before the data is written to the .csv file afresh.

Make sure only passwords belonging to an existing user ID can be altered.

Use suitable messages to guide the user easily through the system.

Repeat the menu until they quit the program.

