

Final Project

College of DuPage

Course Title:
Intro to Python

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Part 4: Storing Data in Arrays

Use your module from Part 3 to read input data from the user, and store it in a 2D array/tuple.

Create a new Python file named `main_pt4.py` in the same directory as your `databaseio.py` file. In `main_pt4.py`, you will import `databaseio`, create an empty list, and write a loop that repeats the following:

1. Call your `databaseio.display_menu()` function to prompt an input option from the user;
2. Depending on which of the the options (add, delete, print, or quit) the user enters, do one of the following:
 - Call `databaseio.read_data()` to read 3 attributes from the command line. Store these three attributes (values returned by `databaseio.read_data()`) in a 3-tuple. Append this 3-tuple to your list (using the `list.append()` method).
 - Loop over the rows in your list. For each tuple (a, b, c) in your list, call `databaseio.print_data(a, b, c)`.
 - Use `index = int(input("Enter index of item to delete: "))` (or similar) to prompt the user for the index of an item to delete. Delete the item at that index from your list using the `list.pop(index)` method.
+5 Extra Credit: What are the valid indices for your current list? Use input validation to make sure a valid index is entered. What happens if the user tries to delete an item, but there are no valid indices? You will need to allow a way for the user to cancel this choice.
 - Exit the loop.

Deliverable:

For this part, send me the following deliverables.

- Resend me your `databaseio.py` file from Part 3, so that I can run your code.
- Send me your new `main_pt4.py` file.
- Send me a test file `main_pt4_test.txt`, which shows the copy-paste of your output when running `main.py` with a couple different test-cases.

Example:

For my NFL players example, the contents of my `main_pt4_test.txt` file might be:

```
>>> python3 main_pt4.py
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  a
Enter the name of a NFL Player: Peyton Manning
Enter the abbreviated position of the player: quarterback
That was not a legal abbreviation. Please select from list:
['QB', 'HB', 'FB', 'WR', 'TE', 'C', 'OG', 'OT', 'DT', 'DE', 'MLB', 'OLB', 'CB',
'S', 'K', 'P', 'LS', 'H', 'KR', 'PR']

Enter the abbreviated position of the player: QB
Enter the number of years the player has been in the NFL: -7
Years cannot be negative. Please try again.

Enter the number of years the player has been in the NFL: 18
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  p

NFL Player:
Name: Peyton Manning
Position: QB
Years in NFL: 18
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
```

```

e -- exit the NFL Player Database
-----
Make your choice here:  d
Enter index of item to delete: 5
Please enter a valid index (-1 to cancel): -1
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  a
Enter the name of a NFL Player: Shaun Suisham
Enter the abbreviated position of the player: K
Enter the number of years the player has been in the NFL: 10
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  p

NFL Player:
Name: Peyton Manning
Position: QB
Years in NFL: 18

NFL Player:
Name: Shaun Suisham
Position: K
Years in NFL: 10
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----

```

```

Make your choice here:  d
Enter index of item to delete: 1
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  p

NFL Player:
Name: Peyton Manning
Position: QB
Years in NFL: 18
-----
Welcome to the database of NFL players!
-----
Select one of the following options:
-----
a -- add a player to the database
d -- delete a player from the database
p -- print the database of players
e -- exit the NFL Player Database
-----
Make your choice here:  e

```

You may discuss the project with your classmates, but you may **not** share code. Each student must complete their own individual project, and all code must be written by the student. Honor code violations will be handled in accordance with COD policy.