

# CSE 1310: Introduction to Computers & Programming

University of Texas at Arlington

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## Assignment 8

This assignment relates to the project we have been building as part of our discussions on the Software Development Life Cycle.

Our client has requested that we also provide management components for both the customers and employees. This will eventually be integrated with our current sales component so that we can track individual employee and customer records based on the sale log.

1. Implement the Employees component following the requirements below.

### Requirements

- Represent the Employees in your code using a 3D character array similar to the examples we did in class.
- The maximum number of employees that can be saved is 128.
- Create a function `list_employee` which lists all employee data resembling the example run below.
- Create a function `add_employee` which prompts the user to input new employee information. Your code should check to make sure the employee does not already exist before adding it to the 3D array. Also check that the employee can be added based on the maximum number of employees in the system.
- Create a function `get_employee` which searches the employee data given an employee ID. If the employee exists, return the index within the data that the employee was found.
- Create a function `find_employee` which accepts a string containing the name of an employee to search for. It should return the index of the employee in the database.
- Each of the above functions should accept the 3D character array of employee information as one of their parameters. **Global variables should not be used!**

### Data Format

- ID
- Name
- Title

2. Implement the Customer component following the requirements below. Note that this will be *VERY* similar to the Employees component. So if you have finished the Employees section, you're most of the way there.

### Requirements

- Represent the Customers in your code using a 3D character array similar to the examples we did in class.
- The maximum number of customers that can be saved is 128.
- Create a function `list_customer` which lists all customer data resembling the example run below.
- Create a function `add_customer` which prompts the user to input new customer information. Your code should check to make sure the customer does not already exist before adding it to the 3D array. Also check that the customer can be added based on the maximum number of customers in the system.
- Create a function `get_customer` which searches the customer data given an customer ID. If the customer exists, return the index within the data that the customer was found.
- Create a function `find_customer` which accepts a string containing the name of an customer to search for. It should return the index of the customer in the database.
- Each of the above functions should accept the 3D character array of customer information as one of their parameters. **Global variables should not be used!**

### Data Format

- ID
  - Name
  - Phone Number
3. Create a test program for each component described above which tests each individual function. For example, the program will have a function `list_customer_test` which will call the function. You should read in the data using redirection, similar to the examples in class.

### Requirements

- Test `list_*` to make sure that it prints out the data in the data 3D array.
- Test `add_*` to make sure that a customer can be added. Call `list_*` afterward to verify that the user was added.
- Test `get_*` and print the returned index along with the ID of the entry.
- Test `find_*` and print the returned index along with the ID of the entry.
- Use the output format based on the example runs below.

### Example Runs

List Customer

```
// Test data entered via redirection
ID          NAME                               PHONE
-----
1           J. S. Bach & Assoc.                (123)555-0001
2           Bruch & Brahms                     (123)555-0002
3           Hahn Music                         (123)555-0003
```

Add Customer

```
Enter ID: 1
Enter Name: Ray Chen Trills
Enter Phone Number: (123)555-0004
ID          NAME                               PHONE
-----
1           Ray Chen Trills                    (123)555-0004
```

Get Customer

```
// Test data entered via redirection
Found at index 0
```

Find Customer

```
// Test data entered via redirection
Found at index 0
```

Create a **zip** file using the name template `LASTNAME_ID_A8.zip` which includes *ALL* of your code files. Submit the **zip** file through Canvas.