

## Overview

Your task is to develop a digital contact book. Your contact book should allow users to add new contacts along with details about that person. It should also support the ability to search for existing contacts as well as print the entire list of contacts.

### 1. Application Interface/Main Menu

The application should run in the console and be completely text based. When the application begins, the user should be prompted to select between adding a new contact, searching for existing contacts, or printing out a list of all entries in the contact book. There should be a way for the user to return to this main menu when they are done adding or viewing contacts.

### 2. Adding Contacts

Each contact added should have a name, email address, and phone number. It is up to you to decide how to prompt for and save these values. Once the user has completed entering the required information, the application should save the contact so it can be viewed later. After adding a contact, the user should be able to add another contact or return to the main menu.

### 3. Printing Contact List

The user should have the option to print the entire list of contacts stored in the contact book. The result should be formatted in a way that is easy for the user to read. Once the list is printed out the user should have the option to return to the main menu.

### 4. Searching for Contacts

The user should be able to search for a contact by their name. If there is time at the end you may choose to add the ability to search by other attributes associated with a contact. After search results are returned, the user should be allow to search for another contact, or return to the main menu.

## Scoring

The most import consideration will be whether the application works as expected. It is advised that participants focus on the core functionality before implementing advanced features.

Core functionality:

- Main menu where the user can select an action to take
- The ability to add new contacts
- The ability to search for existing contacts by name
- The ability to print all contacts

Entries will be further judged based on the following criteria

- User friendliness and formatting of text displayed in through the console
- Coding best practices

- Readable, easy to understand code
  - Proper naming conventions
  - Class design
- Error handling. Your application should not crash unexpectedly. It should gracefully handle any errors that may occur during operation
- Additional contact searching capabilities
- Data entry validation. This is a bonus feature you may choose to add if time allows
  - Assume name, email, and phone number are required
  - Assume name can be any string with at least one character including numbers and symbols.
  - Assume emails follow the simplified pattern “[string greater than length 0]@[string greater than length 0].com”
  - Assume phone numbers follow the pattern xxx-xxx-xxxx where the x’s must be a digit 0-9