# CS5900 Special Topics - Programming in C

## *Summer 2015*

## Programming Projects

**[1]** Develop a **C program** called **Marina Fishing Services** that uses arrays and accessing the data from an input text file. The project should display **Total** and **Average** values of **Warranty** and **Non-Warranty** information. Show modular programming!

The data set in a table form is:

| Marina Number | Warranty | Non-Warranty |
|---|---|---|
| AD57 | 1248.00 | 597.75 |
| AN75 | 1906.50 | 831.25 |
| BL72 | 217.00 | 678.75 |
| EL25 | 413.50 | 227.60 |
| FB96 | 0.00 | 923.90 |
| FM22 | 432.00 | 520.00 |
| JB92 | 608.50 | 657.80 |
| NW72 | 462.50 | 295.30 |
| SM72 | 219.75 | 57.83 |

Create the above information as **input text file** with following contents (*one data per line*):

```
AD57
1248.00
597.75
```

**Desired Outcome:**

- **Create an input text file for the Marina Fishing Services**
- **Program should access data from the file**
- **Modularize the program**
- **Implement search by Marina Number – if found display the index/position of the item and corresponding Warranty and Non-Warranty values**
- **Implement sort by Marina Number**
- **Implement sort or search based on user choice! (*yes/no*)**

**BONUS Points: Incorporate any additional features, unlocking your imagination & creativity!**

**[2]** Develop a **C program** called **Phone Book** which allows the user to enter frequently called phone numbers as well as friends & emergency numbers with names. User should be able to **search** for any friend or emergency numbers from the Phonebook by the name, if found, the program should display name and the corresponding phone number, otherwise, display a message "*Not Found*!!". Implement with arrays *or* with defined data structures!

Typical *fields* of **Phone Book** are:

Name
Address – Apt. number/House number, street address, city
10-digit phone number

- Implement *search* by Name

**[3]** Simulate a **Books** database

Typical *fields* of **Books** are:

Title:
Author:
Year:
Edition:
Publisher:
ISBN:

- Program should *access* books information from a file
- User should be able to *search* book by title *or* ISBN, if *found* display all fields of the book. If not found, display so!

**[4]** Simulate an **ATM** or **Banking transactions** (*use Arrays and loops*)

**Desired Features:**

- User enters 4-digit PIN to initiate ATM transaction. Maximum 4 tries to re-enter PIN, otherwise, "transaction ABORTED!"
- To continue, Options – (**D**)eposit, (**W**)ithdraw *or* (**P**)rint balance only!
- If deposit, update balance to reflect deposit amount to opening balance
- If withdraw, more than balance in account, prompt user to re-enter less amount to withdraw, else, ABORT withdrawal
- If withdrawing lesser amount than existing balance, update after withdrawal
- If user want "Print Only" no change to existing balance

*Good Luck!!*