

# Lab 10 – 08227 Advanced Programming

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This tutorial introduces the reader to more aspects of using classes in C++.

## 1.0 Address Book Exercise 1

Copy your solution from the Lab 9 to the folder **G:/08227/Lab10/**.

Open the **AddressBook.h** header file and add the following declaration to the class:

```
private:
    Person people[10];
    int m_currentNumberOfContacts;
```

[Also remember to include the Person.h file into the AddressBook.h preprocessor section]

The 10 element array of Person will act as our Person database, and the m\_currentNumberOfContacts will keep track of how many Persons we have in our database.

Create an instance of AddressBook in your main.cpp file (remember to include the AddressBook.h file).

## 2.0 Address Book Exercise 2

We require a way to add a new Person to our **people** array database, so add the following to your AddressBook.h file:

```
bool addPerson(string name, int age);
```

Add the functionality for this function in your AddressBook.cpp file. This function is required to add the new Person to the Person array database at the element position signified by **m\_currentNumberOfContacts**. Also remember to increment **m\_currentNumberOfContacts** once you have added the new Person to the database.

Add a new Person to the AddressBook from the main.cpp file.

## 3.0 Address Book Exercise 3

Add the following functionality to your program (in the appropriate classes):

- Write out the whole AddressBook database to an ostream
- Read in a new person from an istream from the AddressBook class
- The ability to write the whole AddressBook database to an ostream using the << operator
- The ability to read in a new person from an istream using the >> operator