# Assignment

## Assignment Description

Write an application in C/C++ for the e-commerce delivery centre to process account and package records. The account records should be read from a text file containing the following data: *full name*, *phone number* and *email*. Gather data on at least 20 records and prepare them in the text file. As each record is read, insert it into a *list* by using **array of structures**.

After building the *list*, display a menu with the following options:

(a)     **List** – Display the *list* in tabular format. Each display should contain an appropriate heading and column captions;

(b)     **Search** – Search for record(s) in the *list* using the **name** or **phone number**, and print the full details for the record(s). It can match word(s)/number within a string/number, and also print multiple results. This is best explained by the following examples:

-     If the full name "**Paul J. Deitel**" is stored inside the *list*, searching for either "**Paul**" or "**Deitel**" should return the record.
-     If the phone numbers "**012-32***14567*", "**012-33***14567*", and "**012-34***14567*" are in the *list*, then searching for "**14567**" must print all three records (because the number "**14567**" occurs in all three phone  numbers).

Note that you may need to use `strstr()` which allows you to locate substring.;

(c)     **Update** – Ask user for a *name* and *contact information (phone number and/or email)*. Then search for a record in the *list* using the input data; *new contact information* should be updated if the record is found.

(d)     **Exit** – Stop the program.

**Advance Questions: Maintaining package records**
Registered users can direct their e-commerce packages to the e-commerce delivery centre. When a package has arrived at the e-commerce delivery centre, the package details will be recorded in the system. The e-commerce delivery centre will contact the recipient based on the recipient name and phone number that are available on the package. After the recipient collected the package, the e-commerce delivery centre will update collection date to the system.

Modify the storage structures of account records and implementations in your program, so that it can store the details of packages, such as courier company, arrival date, collection date, etc.

Prepare the necessary data file(s) for building the data structure(s) needed in your application. You may give additional assumptions for your application.

**Additional Information**
To make your program more robust and avoid problems at run time, do as much status/error checking as you could in your program. You may also add on more features in your program for enhancement.

## Assessment and Submission

This is a group assignment. Form a group of 2 or 3 members, preferably from same programme as yours. Prepare a report (preferable using word processing software) to answer the questions given above.

Your **REPORT SHOULD CONTAIN** the following:
1.     design of the application (structure chart and flowcharts/pseudocode)
2.     print out of the C++ program.
3.     sample output(s) (Alt+Prnt Scrn) of your program.
4.     sample of input data and test cases
5.     soft copy of the C++ program and input text file (upload to WBLE)

Do remember to print the assignment marking sheet and attach as the FIRST PAGE of your report.

This practical assignment will contribute 20% of your final mark. Refer to the marking sheet for the mark allocations for the report and C++ program. The report will be marked for *correctness*, *completeness*, *presentation style*, and *relevant use of diagrams/tables/graphs*, etc. And the C++ program will be marked for *correctness*, *completeness*, *program style*, *adequate testing* and *documentation/comments*. It's your responsibility to understand the requirements of the tasks and prepare well for your submission. You will not receive full mark if you do not submit the report and C++ program that is a reasonable attempt and compiles without error. You might be asked questions about the works you submit to ensure that you understand them.

## Plagiarism

It is important that your solutions to the practical assignment be your own work. It is perfectly acceptable to seek help and advice when completing the practical assignment, but this must not be taken to the point where what is submitted is in part someone else's work.