CA212 – LABSHEET 3

1) Write a program using a multidimensional array that produces

```
  1  2  3  4  5
  2  4  6  8 10
  3  6  9 12 15
```

Initialise your multidimensional array (if it is called table) using a formula (an expression), i.e.

```
table[n][m] = \ldots \text{some integer expression with } n \text{ and } m;
```

Write a function printarray that prints out the array line by line, i.e. pass a one-dimensional array for each line as the parameter.

Can you modify the array within printarray? Try!

2) Write a movie database application.

Use a struct to define a movie consisting of a title (a string of length 20) and a year (an integer). The database shall hold 5 movie entries (use an array of structs).

Read in movie data as follows:

Enter title: Matrix
Enter year: 1999
Enter title: Alien
Enter year: 1979
...

You can use `cin.getline(mystring,20)` to read in a whole line (with spaces, if your movie title contains spaces). You could also read the year as a string and convert it into an integer with `atoi`, e.g. `myInteger = atoi(myString);`. Include `<stdlib.h>` for this functions.

- `atoi`: converts string to `int` type.
- `atol`: converts string to `long` type.
- `atof`: converts string to `float` type.

Print out (define a separate function for this) all movies as follows:

Matrix (1999)
Alien (1979)
...

Write two versions of this function: pass a single movie by value and as a pointer.

Other exercises you could do:
- 4.15, 4.18, 4.32 (Deitel & Deitel, 4/e)