

C Language Programming: Homework #4

Assigned on 11/01/2016(Thursday), Due on 11/15/2016(Thursday)

Description:

This assignment allows you to practice passing 2-D arrays into a function by doing matrix operations. You are required to do the following:

1. Using **void add** or **multiplication(float Result[][N], float M1[][N], float M2[][N])** to implement Add and Multiplication operations or format **float det(float R[][N])** to compute matrix determinant (行列式).
2. Put all these codes in one file and use switch and command argument list, *main(int argc and char *argv[])* to (1) select N (NxN matrix), (2) select function (Add, Multiplication, or Det) and (3) select if the matrices M1 and M2 are randomly generated from a random number generator or from keyboard.
3. You must use the traditional method stated in the following link to compute the determinant: : <http://mathworld.wolfram.com/Determinant.html>
4. 亂數範圍設定1~100，函式可以多傳參數

Command Line:

Select N :

Ex. N(N*N matrix) for 3 => ./hw4 3 0 1

Select function : 0 for add, 1 for multiplication, 2 for determination

Select Matrix : 0 for random, 1 for user key in

Ex.

```
./hw4 3 0 1
```

```
1 2 3 4 5 6 7 8 9
```

```
9 8 7 6 5 4 3 2 1
```

Output:

Input:

```
1 2 3 4 5 6 7 8 9
```

```
9 8 7 6 5 4 3 2 1
```

Operation:

Add

Output:

```
10 10 10 10 10 10 10 10 10
```

Score:

Command line : 10%

Function : 15%

Matrix generated : 10% (5% random, 5% user key in)

Report : 20%

Add : 15%

Multiplication : 15%

Matrix Determination : 15%