Homework 4 –
Matrix Multiplication

一組繳交一份作業

作業配分:

- 實作平行架構之傳統Matrix Multiplication與Strassen‘s Matrix Multiplication (滿分90分)
- 改良或設計其他加速方法(亦須實作Strassen‘s Matrix Multiplication以便與之比較): (滿分100分)
- 注意: 不可使用現成之快速矩陣運算 library

繳交檔案:

- 一組上傳一份.zip檔，檔名請命名為: HW4_GroupXX.zip
- zip檔中須包含
  - ✓ 程式碼(佔70%)，須包含readme file說明程式執行方法
  - ✓ 報告pdf檔(佔15%)，須說明使用之語言、是否自行設計其他加速方法(若有，請詳述方法)、比較加速之效能(可嘗試不同矩陣大小) 、組員分工
- Demo佔15% (6/14 上課時間demo)

Input

- A text file containing the matrix dimension and the elements in each matrix. An example is shown as follows:

```
10  10 (the row size and column size of the first matrix)
95  76  41  22   3  82  52  47  86  50 (1st row of the first matrix, separated by a blank space)
35  75  70  25  14  13   5  87  89  65 (2nd row of the first matrix, separated by a blank space)
98  88  92  78  23  28  53  93   1  19 (3rd row of the first matrix, separated by a blank space)
54  49  33  40  79  48  21  99   8  36 (4th row of the first matrix, separated by a blank space)
55  99  68  55  39  85  62  16  60  66 (5th row of the first matrix, separated by a blank space)
27  26   7  59  56  72  74  58  29  61 (6th row of the first matrix, separated by a blank space)
6  46  31  38  81   2  17  10  15  63 (7th row of the first matrix, separated by a blank space)
83  64  57  32  20   9  73  24  90  12 (8th row of the first matrix, separated by a blank space)
94  45  69  30  18  11  96  97  44  77 (9th row of the first matrix, separated by a blank space)
71  67  42  37   4  80  51  43  91  34 (10th row of the first matrix, separated by a blank space)
10  10 (the row size and column size of the second matrix)
6  46  31  38  81   2  17  10  15  63 (1st row of the second matrix, separated by a blank space)
71  67  42  37   4  80  51  43  91  34 (2nd row of the second matrix, separated by a blank space)
94  45  69  30  18  11  96  97  44  77 (3rd row of the second matrix, separated by a blank space)
27  26   7  59  56  72  74  58  29  61 (4th row of the second matrix, separated by a blank space)
54  99  68  55  39  85  62  16  60  66 (5th row of the second matrix, separated by a blank space)
50  49  33  40  79  48  21  99   8  36 (6th row of the second matrix, separated by a blank space)
98  88  92  78  23  28  53  93   1  19 (7th row of the second matrix, separated by a blank space)
83  64  57  32  20   9  73  24  90  12 (8th row of the second  matrix, separated by a blank space)
95  76  41  22   3  82  52  47  86  50 (9th row of the second matrix, separated by a blank space)
35  75  70  25  14  13   5  87  89  65 (10th row of the second matrix, separated by a blank space)
```

Output

- A text file containing the result of the matrix multiplication (in the row-column format as shown in the input file)
- Computation time with original multiplication
- Computation time with Strassen's Matrix Multiplication
- Computation time with any method proposed by yourself (optional)

Deadline

2018/06/13

22:00