

# Input File Data and Output Results Project 6

(for maximum extra credit, pay close attention to the last example, page 3 below)

Input File: in2h.txt

```
4 4
16 -32 1 17
25 8 12 9
-5 0 -16 -1
6 1 13 4
```

```
4 4
4 2 -1 2
11 44 13 1
25 -8 0 14
2 1 5 -6
```

```
3 4
3 4 -2 7
-1 0 -2 2
3 -4 5 3
```

```
4 5
3 5 -9 12 -10
-3 2 15 -4 0
1 0 -7 1 2
5 3 7 -2 15
```

Output File: out.txt

MATRIX A PLUS MATRIX B:

```
16 -32 1 17 4 2 -1 2 20 -30 0 19
25 8 12 9 + 11 44 13 1 = 36 52 25 10
-5 0 -16 -1 25 -8 0 14 20 -8 -16 13
6 1 13 4 2 1 5 -6 8 2 18 -2
```

MATRIX A MINUS MATRIX B:

```
16 -32 1 17 4 2 -1 2 12 -34 2 15
25 8 12 9 - 11 44 13 1 = 14 -36 -1 8
-5 0 -16 -1 25 -8 0 14 -30 8 -16 -15
6 1 13 4 2 1 5 -6 4 0 8 10
```

MATRIX C TIMES MATRIX D:

```
3 4 -2 7 3 5 -9 12 -10 30 44 96 4 71
-1 0 -2 2 x -3 2 15 -4 0 = 5 1 37 -18 36
3 -4 5 3 1 0 -7 1 2 41 16 -101 51 25
5 3 7 -2 15
```

Input File: in2i.txt

```
4 4
16 -32 1 17
25 8 12 9
-5 0 -16 -1
6 1 13 4
```

```
4 4
4 2 -1 2
11 44 13 1
25 -8 0 14
2 1 5 -6
```

```
4 5
3 4 -2 7 2
-1 0 -2 2 1
3 -4 5 3 3
-1 0 1 -2 -1
```

```
5 6
3 5 -9 12 -10 5
-3 2 15 -4 0 1
1 0 -7 1 2 4
5 3 7 -2 15 0
2 0 1 5 2 10
```

Output File: out.txt

MATRIX A PLUS MATRIX B:

```
16 -32 1 17 4 2 -1 2 20 -30 0 19
25 8 12 9 + 11 44 13 1 = 36 52 25 10
-5 0 -16 -1 25 -8 0 14 20 -8 -16 13
6 1 13 4 2 1 5 -6 8 2 18 -2
```

MATRIX A MINUS MATRIX B:

```
16 -32 1 17 4 2 -1 2 12 -34 2 15
25 8 12 9 - 11 44 13 1 = 14 -36 -1 8
-5 0 -16 -1 25 -8 0 14 -30 8 -16 -15
6 1 13 4 2 1 5 -6 4 0 8 10
```

MATRIX C TIMES MATRIX D:

```
3 4 -2 7 2 3 5 -9 12 -10 5 34 44 98 14 75 31
-1 0 -2 2 1 x -3 2 15 -4 0 1 = 7 1 38 -13 38 -3
3 -4 5 3 3 1 0 -7 1 2 4 47 16 -98 66 31 61
-1 0 1 -2 -1 5 3 7 -2 15 0 -14 -11 -13 -12 -20 -11
2 0 1 5 2 10
```

### Input File: in2j.txt

```
3 3
16 -32 1
25 8 12
-5 0 -16
```

```
3 3
4 2 -1
11 44 13
25 -8 0
```

```
2 4
3 4 -2 1
-1 0 -2 4
```

```
4 2
3 5
-3 2
1 0
4 6
```

### Output File: out.txt

MATRIX A PLUS MATRIX B:

```
16 -32 1      4 2 -1      20 -30 0
25 8 12 + 11 44 13 = 36 52 25
-5 0 -16      25 -8 0      20 -8 -16
```

MATRIX A MINUS MATRIX B:

```
16 -32 1      4 2 -1      12 -34 2
25 8 12 - 11 44 13 = 14 -36 -1
-5 0 -16      25 -8 0      -30 8 -16
```

MATRIX C TIMES MATRIX D:

```
3 4 -2 1 x 3 5 = -1 29
-1 0 -2 4   -3 2   11 19
              1 0
              4 6
```

### Input File: in2k.txt

```
2 2
-20 -32
-12 -9
```

```
2 2
4 2
2 1
```

```
5 2
3 4
2 5
3 6
0 2
1 3
```

```
2 5
1 0 7 1 2
5 3 7 2 4
```

### Output File: out.txt

MATRIX A PLUS MATRIX B:

```
-20 -32 + 4 2 = -16 -30
-12 -9   2 1   -10 -8
```

MATRIX A MINUS MATRIX B:

```
-20 -32 - 4 2 = -24 -34
-12 -9   2 1   -14 -10
```

MATRIX C TIMES MATRIX D:

```
3 4 x 1 0 7 1 2 = 23 12 49 11 22
2 5   5 3 7 2 4   27 15 49 12 24
3 6               33 18 63 15 30
0 2               10 6 14 4 8
1 3               16 9 28 7 14
```

Input File: in21.txt

```

4      3
16 -32    1
25   8   12
-5    0  -16
6     1   13

```

```

4      3
4      2   -1
11   44   13
25  -8     0
2    1     5

```

```

4  5
3  4 -2  2731  7
-1 0 -2  2   1
3 -4  5  3   3
-1 0  1 -2  -1

```

```

5  6
3  5 -9 12 -10  5
-3 2 15 -4   0  1
1  0 -7  1   2  4
5  3  7 -2  15  0
2  0  1  5   2 10

```

Output File: out.txt

MATRIX A PLUS MATRIX B:

```

16 -32    1      4  2  -1      20 -30    0
25   8   12  +  11 44  13  =  36  52   25
-5    0  -16      25 -8    0      20  -8  -16
6     1   13      2  1    5       8   2   18

```

MATRIX A MINUS MATRIX B:

```

16 -32    1      4  2  -1      12 -34    2
25   8   12  -  11 44  13  =  14 -36   -1
-5    0  -16      25 -8    0     -30   8  -16
6     1   13      2  1    5       4   0   8

```

MATRIX C TIMES MATRIX D:

```

      3      4      -2  2731      7      3      5      -9  12 -10      5      13664      8216      19171      -5409      40945      81
      -1      0      -2      2      1  x  -3      2  15  -4      0      1  =      7      1      38      -13      38      -3
      3      -4      5      3      3      1      0      -7      1      2      4      47      16      -98      66      31      61
      -1      0      1      -2      -1      5      3      7      -2  15      0      -14      -11      -13      -12      -20      -11
                2      0      1      5      2      10

```

Note how the last example has varying column widths for each array. The columns of the C array are wider than the columns of the C array. This is because the C array contains a 4 digit number which defines the column widths for the C array. The resulting array has even wider column widths because the largest values are 5 digits. This last means of formatted output earns a total of 20 extra credit points; 10 for displaying the arrays left to right with all columns the same size but wide enough to have some space between numbers and the numbers are right justified AND AN ADDITIONAL 10 points if the column width for each array is based on the largest value contained in a particular array.