Homework Assignment 9 – due on Saturday, November 30 (Midnight)

Description of Assignment:
Write a CUDA program(matadd.cu) for the following C program.

C program

```
#include <stdio.h>
#include <stdlib.h>

#define M 12
#define N 10

int main()
{
    float A[M][N], B[M][N], C[M][N];
    int i, j;

    // initializaton of A and B
    for (i=0; i<M; i++)
        for (j=0; j<N; j++) {
            A[i][j] = M - i + 1;
            B[i][j] = N + j;
        }
    // add two matrixes
    for (i=0; i<M; i++)
        for (j=0; j<N; j++)
            C[i][j] =    A[i][j] + B[i][j];

    // print the results
    for (i=0; i<M; i++) {
        for (j=0; j<N; j++)
            printf("%3.0f ", C[i][j]);
        printf("\n");
    }

    exit(0);
}
```

CUDA C program

```
#include <stdio.h>

#define M 12
#define N 10
#define A(i,j) A[i*N+j]
#define B(i,j) B[i*N+j]
#define C(i,j) C[i*N+j]

__global__ void matadd(…)
{
    …
}

int main(int argc, char *argv[])
{
    float A[M][N], B[M][N], C[M][N];
    float *A_d, *B_d, *C_d;
    int THREADS_M, THREADS_N, i, j;

    if (argc != 3) {
        fprintf(stderr, "usage: %s threads_M threads_N\n",
argv[0]);
        exit(1);
    }
    THREADS_M = atol(argv[1]);
    THREADS_N = atoi(argv[2]);

    // initializaton of A and B
    // call matadd kernel
    // print the results

    exit(0);
}
```

How to proceed:
Use 6×5 and 4×2 threads to test the program

Turnin the assignment:
After done your assignment, type **turnin** in your current working directory. You can retype the command at any time before the due date.