1. Review Quiz 9.

In small groups, finish last week’s worksheet, especially questions 4 and 5.

2. How can you create a jagged 2-d array? What other kind of structures can you create with a double pointer?

3. How would you deallocate the memory of a 2D array? This you can answer with the problem below.

**Practice for Final:** Multiply a number times a matrix of size rows x cols and store the result in a different matrix of size rows x cols. The number of rows and cols, as well as the number to multiply the matrix by, are provided as command-line arguments. **First, find the two logic errors and two syntax errors.**

```cpp
//assume libraries and using namespace std
int ** create_matrix(int, int);
void fill_matrix(int **, int, int);
void multiply_matrix(int, int **, int **, int, int);
void delete_matrix(int **, int);

int main (int argc, char *argv[]) {
    int **m, **result, rows, cols, num;

    rows=atoi(argv[0]);
    cols=atoi(argv[1]);
    num=atoi(argv[2]);

    //How would you create m using create_matrix()?
    //How would you create result using create_matrix()?
    //How would you fill m using fill_matrix()?
    //How would you multiply num * m using multiply_matrix()?
    //How would you delete m and result using delete_matrix()?

    return 0;
}
```
int ** create_matrix(int r, int c) {
    int **p=new int*[r];
    for(int i=0; i<c; i++)
        p[i]=new int[c];
    return *p;
}

void fill_matrix(int **p, int r, int c) {
    for(int i=0; i<r; i++)
        for(int j=0; j<c; j++) {
            cout << "Enter a matrix value: ";
            cin >> p[i][j];
        }
}

void multiply_matrix(int n, int **p, int r, int c) {
    for(int i=0; i<r; i++)
        for(int j=0; j<c; j++)
            p2[i][j]=n*p[i][j];
}

//Write the function for delete_matrix() that corresponds to the 
//declaration/prototype above