**COP 3331 Week 4 Example:**

1. Dynamic 2d Array Example:

// This program creates a dynamic 2d array. It also uses functions

// to fill the array and print its contents.

#include <iostream>

#include <iomanip>

using namespace std;

void fill(int \*\*p, int rowSize, int columnSize);

void print(int \*\*p, int rowSize, int columnSize);

int main()

{

int \*\*ptr2table; //pointer to fill table

int rows;

int columns;

//Get the size of the table from the user

cout << "Enter the number of rows and columns: ";

cin >> rows >> columns;

cout << endl;

//Create the rows of the table; this is the array of pointers

ptr2table = new int\* [rows];

//Create the columns of the ; this will be the values

for (int r = 0; r < rows; r++)

ptr2table[r] = new int[columns];

//Insert elements into board

fill(ptr2table, rows, columns);

cout << "Here is the table:" << endl;

//Output the elements of board

print(ptr2table, rows, columns);

return 0;

}

void fill(int \*\*p, int rowSize, int columnSize)

{

for (int row = 0; row < rowSize; row++)

{

cout << "Enter " << columnSize << " number(s) for row "

<< "number " << row << ": ";

for (int col = 0; col < columnSize; col++)

cin >> p[row][col];

cout << endl;

}

}

void print(int \*\*p, int rowSize, int columnSize)

{

for (int row = 0; row < rowSize; row++)

{

for (int col = 0; col < columnSize; col++)

cout << setw(5) << p[row][col];

cout << endl;

}

}