Writing Array Functions
Goal

• Write a function to initialize the elements of a two-dimensional array using values obtained from a user, through keyboard input. Prompt the user for each row of the input, telling which row they are entering, and the number of elements to input.
Declarations and the Call

const int NUMCOLS = 100, NUMROWS = 100
int A[NUMROWS][NUMCOLS];
int rows = 20, cols = 50;

ReadArray(A, rows, cols);

*** Draw picture of A, and what we are modifying ***
Design Function

• **Input:**
  – Number of rows to fill in
  – Number of columns to fill in

• **Output:**
  – Array with rows x columns filled in

• **Algorithm**
  1. For each row in the array
     1.1 prompt the user to input the row
     1.2 for each column in the current row
        read in a value
Function Code

Heading:
void ReadArray (int A[ ][NUMCOLS], int rows, int cols)

Body:
{
    for (int i = 0; i < rows; i++)
    {
        cout << "Enter " << cols << " ints for row " << row;
        for (int j = 0; j < cols; j++)
            cin >> A[i][j];
    }
}
Your Mission

- Write a function to output an array to the screen, showing each row on a separate line.

- Write a function to output an array to the screen, showing each column on a separate line.