# Iterating a two-dimensional array

Just like we iterating an array, it is also a common requirement to visit all of the elements of a two-dimensional array. To do so requires a two set process, we start with a loop that will visit every row of the array and then we have a loop inside of that loop which visits every column of the row. This pattern of a loop inside of a loop is called a **nested loop**.

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| #include <iostream>  #include <array>  using namespace std;  const int NUM\_STUDENTS = 4;  const int NUM\_ASSIGNMENTS = 6;  int main() {   array< array<double, NUM\_ASSIGNMENTS>, NUM\_STUDENTS > gradeBook = {{{98, 78, 88, 76, 78, 99},    {76, 56, 34, 23, 12, 78},    {45, 36, 75, 65, 54, 76},    {23, 53, 34, 12, 65, 44}}};   for (size\_t studentIndex = 0; studentIndex < NUM\_STUDENTS; studentIndex++) {    cout << "Student " << studentIndex << ":" << endl;    for (size\_t assignmentIndex = 0; assignmentIndex < NUM\_ASSIGNMENTS; assignmentIndex++) {      cout << gradeBook[studentIndex][assignmentIndex] << endl;    }   }   return 0;  } |