

```
1 // Attached: HW_2a, HW_2b, HW_2c, HW_2d
2 //
3 // =====
4 // File: HW_2b
5 // =====
6 // Programmer: Stephen Moye
7 // Class: CMPR 121 Tuesday
8 // Instructor: Dennis Rainey
9 //
10 // Description:
11 // This program will ask the user
12 // for 12 numbers for the 2d array
13 // then display a formatted output
14 //
15 // =====
16
17 #include <iostream>
18 #include <iomanip>
19
20 using namespace std;
21
22 const int ROWS = 3;
23 const int COLS = 4;
24
25 void getData(int numArray[ROWS][COLS]);
26 void displayArray(int numArray[ROWS][COLS]);
27
28 // =====
29 // main
30 // =====
31 int main()
32 {
33     int numArray[ROWS][COLS];
34     getData(numArray);
35
36     return 0;
37 }
38 // =====
39 // end of main
40 // =====
41
42
43
44 // =====
45 // getData
46 // =====
47 // this function receives the array from main
48 // prompts the user to input numbers to fill the array
49 // and then passed those values to displayArray
50 //
51 // Input:
52 // numArray, a multidimensional array with rows and columns const int sizes
```

```
53 // Output:
54 // The input results are passed to displayArray
55 // =====
56 void getData(int numArray[][COLS])
57 {
58     cout << endl << "Enter integers into the 2-Dimensional array:" << endl <<
59         endl;
60     for (int i = 0; i < ROWS; i++)
61     {
62         for (int j = 0; j < COLS; j++)
63         {
64             cout << "Enter a number: ";
65             cin >> numArray[i][j];
66         }
67     }
68     system("cls");
69     displayArray(numArray);
70 }
71 // =====
72 // end of getData
73 // =====
74
75
76
77
78 // =====
79 // displayArray
80 // =====
81 // this function takes in the array passed from getData
82 // and loops through each row/col of the array
83 // to output a formatted version of the array values
84 //
85 // Input:
86 // numArray, a multidimensional array with rows and columns const int sizes
87 // Output:
88 // The data of the array formatted into rows and columns
89 // =====
90 void displayArray(int numArray[ROWS][COLS])
91 {
92     cout << "Here is the data in the 2-Dimensional array:" << endl << endl;
93
94     for (int i = 0; i < ROWS; i++)
95     {
96         for (int j = 0; j < COLS; j++)
97         {
98             cout << setw(6) << setprecision(3) << fixed << numArray[i][j];
99         }
100
101         cout << endl;
102     }
103 }
```

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104 // end of displayArray function
105 // =====
106
107
108
109 /* ===== Output =====
110
111
112 Enter integers into the 2 - Dimensional array:
113
114 Enter a number : 1
115 Enter a number : 45
116 Enter a number : 765
117 Enter a number : 6
118 Enter a number : 32
119 Enter a number : 45
120 Enter a number : 789
121 Enter a number : 343
122 Enter a number : 22
123 Enter a number : 64
124 Enter a number : 12
125 Enter a number : 555
126
127 Here is the data in the 2-Dimensional array:
128
129      1    45   765    6
130     32    45   789   343
131     22    64    12   555
132
133 C:\Users\Steve\Desktop\School\Computer Science\CMPR121\Homework\HW_2\HW_2b\Debug \HW_2b.exe (process 17512) exited with code 0.
134 To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
135 Press any key to close this window . . .
136
137
138
139 =====
    */
```