




Two-Dimensional Arrays

Peer Instruction 7

0





Declaration and allocation of two-dimensional (2D) arrays.


Which statements correctly declare and allocate a 2D integer array with 2 rows and 4 columns?

- 1) `int iArray[2][4];`
- 2) `int iArray = new int[2][4];`
- 3) `int iArray[][] = new int[4][2];`
- 4) `int iArray[][] = new int[2][4];`
- 5) `int iArray[][] = { { 1, 2, 3, 4 }, { 4, 5, 6, 7 } };`

A. 2) and 4) D. 3) and 5)
 B. 1) and 5) E. 4) and 5)
 C. 2) and 5)

1





Declaration and allocation of two-dimensional (2D) arrays.


Which statements correctly declare and allocate a 2D integer array with 2 rows and 4 columns?

- 1) `int iArray[2][4];`
- 2) `int iArray = new int[2][4];`
- 3) `int iArray[][] = new int[4][2];`
- 4) `int iArray[][] = new int[2][4];`
- 5) `int iArray[][] = { { 1, 2, 3, 4 }, { 4, 5, 6, 7 } };`

A. 2) and 4) D. 3) and 5)
 B. 1) and 5) E. 4) and 5)
 C. 2) and 5)

2





Accessing elements in a 2D array (Part 1)


What is the value of `cArray[2][1]` after the following code has executed?

```
char cArray[][] = new char[3][3];
for (int i = 0; i < 3; i++)
    for (int j = 0; j < 3; j++)
        cArray[i][j] = (char) ('a' + j + i);
```

A. 'a'
 B. 'b'
 C. 'c'
 D. 'd'
 E. 'e'

3





Accessing elements in a 2D array (Part 1)


What is the value of `cArray[2][1]` after the following code has executed?

```
char cArray[][] = new char[3][3];
for (int i = 0; i < 3; i++)
    for (int j = 0; j < 3; j++)
        cArray[i][j] = (char) ('a' + j + i);
```

A. 'a'
 B. 'b'
 C. 'c'
 D. 'd'
 E. 'e'

4





Accessing elements in a 2D array (Part 2)

Which array element correctly accesses the highlighted value in the array below?

123	234	345	456
567	678	789	890
111	222	333	444
555	666	777	777
987	876	765	654
543	432	321	210

A. `iArray[4][3]`
 B. `iArray[3][4]`
 C. `iArray[3][2]`
 D. `iArray[2][3]`
 E. `iArray[3][3]`

5



Accessing elements in a 2D array (Part 2)

Which array element correctly accesses the highlighted value in the array below?

123	234	345	456
567	678	789	890
111	222	333	444
555	666	777	777
987	876	765	654
543	432	321	210

- A. iArray[4][3]
- B. iArray[3][4]
- C. iArray[3][2]
- D. iArray[2][3]
- E. iArray[3][3]

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 6



6



Initializing elements in a 2D array

What is the value of dArray[7][4] after the following code has executed?

```
double dArray[][] = new double[10][10];
for (int i = 0; i < dArray.length; i++)
    for (int j = 0; j < dArray[i].length; j++)
        dArray[i][j] = (i * 10.0) + j;
```

- A. 63.0
- B. 74.0
- C. 85.0
- D. None of the above

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 7



7



Initializing elements in a 2D array

What is the value of dArray[7][4] after the following code has executed?

```
double dArray[][] = new double[10][10];
for (int i = 0; i < dArray.length; i++)
    for (int j = 0; j < dArray[i].length; j++)
        dArray[i][j] = (i * 10.0) + j;
```

- A. 63.0
- B. 74.0
- C. 85.0
- D. None of the above

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 8



8



2D Arrays as Method Return Values

What is the value of iArray[3][2] after the call to the make2D method below?

```
int[][] iArray = make2D(5, 6);
public int[][] make2D(int nrows, int ncols) {
    int[][] nArray = new int[nrows][ncols];
    for (int i = 0; i < nrows * ncols; i++)
        nArray[i / ncols][i % ncols] = i;
    return nArray;
}
```

- A. 18
- B. 19
- C. 20
- D. 21
- E. None of the above

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 9



9



2D Arrays as Method Return Values

What is the value of iArray[3][2] after the call to the make2D method below?

```
int[][] iArray = make2D(5, 6);
public int[][] make2D(int nrows, int ncols) {
    int[][] nArray = new int[nrows][ncols];
    for (int i = 0; i < nrows * ncols; i++)
        nArray[i / ncols][i % ncols] = i;
    return nArray;
}
```

- A. 18
- B. 19
- C. 20
- D. 21
- E. None of the above

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 10



10



Ragged 2D Arrays

What are the values of iArray.length and iArray[1].length, and iArray[3].length?

```
int iArray[][] =
{{ 11, 22, 33, 44 },
 { 55, 66, 77 },
 { 88, 99 },
 { 1, 2, 3, 4, 5, 6 } };
```

- A. 4, 3, 6
- B. 4, 4, 5
- C. 14, 3, 6
- D. 14, 7, 14
- E. 3, 2, 5

Get Sample Questions



cs5j64, Peer 7 - 2D Arrays - Fall Semester 2016

Question - 11



11



Ragged 2D Arrays

What are the values of `iArray.length` and `iArray[1].length`, and `iArray[3].length`?

```
int iArray[][] =  
{ { 11, 22, 33, 44 },  
  { 55, 66, 77 },  
  { 88, 99 },  
  { 1, 2, 3, 4, 5, 6 } };
```

- A. 4, 3, 6
- B. 4, 4, 5
- C. 14, 3, 6
- D. 14, 7, 14
- E. 3, 2, 5

Design & compose



cs163/164, Peer 2 - 2D Arrays - Fall Semester 2016

Question - 11

