

King Saud University
College of Computer & Information Science
CSC111 – Tutorial12
Arrays – I –
All Sections

Objectives:

- To know how to define and create an array.
- To know how to access array elements.
- To know how to iterate over arrays using loops
- To know how to manipulate arrays

(Exercise with * can be left to the student as self review questions)

Exercise 1

1. Write a code snippet to define the following arrays:
 - a. An int array named **nums** of size 10.
 - b. A double array named **dobs** of size 5.
 - c. A string array named **names** of size 100.
2. Which of the following array definitions is right and which is wrong?

- a) `int i = new int(30);`
- b) `double d[] = new double[30];`
- c) `char[] r = new char(1..30);`
- d) `int i[] = (3, 4, 3, 2);`
- e) `float f[] = {2.3, 4.5, 6.6};`
- f) `char[] c = new char();`

3. Given the following array definition,

```
double[] arr = new double[5];
```

Write code snippets (if possible) to answer the following questions:

- a. Access the 1st element.
- b. Access the element at index 0.
- c. Access the last element.
- d. Access the element at index 4.
- e. Access the element before the last.
- f. Access the element at index 6.
- g. Given an integer variable **i < 5**, access the element at index **i - 1**

- h. Assign the sum of the first two elements to the 4th element.
- i. Given an integer variable **i**, assign the result of dividing the **i**th element by the element before it to last element.

Your code must have full checks to avoid runtime errors.

- 4. Write a code snippet that uses an **array initializer** to create an array of characters **r** that contains the characters of the word **"Riyadh"**.
- 5. What is wrong with the following code? Is it a compile-time error or a runtime error?

```
int[] a = new int[-1];
```

- 6. What is wrong with the following code? Is it a compile-time error or a runtime error?

```
int[] a;  
a[2] = 10;
```

- 7. Given a non-empty array **a** of integers and a **Scanner** object **S**, what is wrong with the following code? Does it have a compile-time error or runtime error?

```
for (int i = 0; i <= a.length; i++){  
    a[i] = s.nextInt();  
}
```

- 8. Write a code snippet to create a boolean array **b** of size **N**, where **N** is entered by the user (assume user will enter a positive integer greater than zero). Then fill out the array such that elements with

even index get **true** and elements with odd index get **false**

(Element with index zero gets **true**).

9. Write a code snippet that shifts the elements of an array **myList** of size **N** where **N > 0**, one element to the left.