

Quiz 3 -Arrays

1. What is an Array in Java?

- a) A collection of elements with different types
- b) A collection of elements with the same type**
- c) A resizable data structure
- d) A container for storing key-value pairs

2. How do you declare an array in Java?

- a) `int[] arr;`**
- b) `int arr[];`
- c) `int arr;`
- d) `Array<int> arr;`

3. What is the index range for the elements of an array in Java?

- a) 0 to length - 1**
- b) 1 to length
- c) -1 to length - 1
- d) 0 to length

4. How do you access an element in an array in Java?

- a) By using the element's value
- b) By using the element's index**
- c) By using the element's key
- d) By using the element's label

5. What happens if you try to access an array element with an index that is out of bounds?

- a) A runtime exception is thrown**
- b) The program terminates abruptly

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c) The element value is set to null

d) The element value is set to 0

6. Which method is used to copy one array into another in Java?

a) copy()

b) clone()

c) System.arraycopy()

d) Arrays.copy()

7. Can the length of an array be changed after its creation in Java?

a) Yes, by using the resize() method

b) Yes, by using the length property

c) No, the length of an array is fixed after creation

d) No, arrays in Java have a fixed length

8. What symbol is used for a *varargs* method parameter?

a) ..

b) ...

c) --

d) ---

9. How many of the following are legal declarations?

```
[]double lion;  
double[] tiger;  
double bear[];
```

a) None

b) One

c) Two

d) Three

10. How do you determine the number of elements in an array?

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```
int buses[] = new int[5];
```

a) buses.length

b) buses.length()

c) buses.size

d) buses.size()

11. Which of the following creates an empty two-dimensional array with dimensions 2x2?

a) int[][] blue = new int[2, 2];

b) int[][] blue = new int[2], [2];

c) int[][] blue = new int[2][2];

d) int[][] blue = new int[2 x 2];

12. What does this code output?

```
String[] nums = new String[] { "1", "9", "10" };  
Arrays.sort(nums);  
System.out.println(Arrays.toString(nums));
```

a) [1, 9, 10]

b) [1, 10, 9]

c) [10, 1, 9]

d) None of the above

13. How many of the following are legal declarations?

```
String lion [] = new String[] { "lion" };  
String tiger [] = new String[1] { "tiger" };  
String bear [] = new String[] { };  
String cat [] = new String[0] { };
```

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a) None

b) One

c) Two

d) Three

14. How many of the following are legal declarations?

```
float[] lion = new float[];  
float[] tiger = new float[1];  
float[] bear = new[] float;  
float[] cat = new[1] float;
```

a) None

b) One

c) Two

d) Three

15. Which is not a true statement about an array?

a) An array expands automatically when it is full.

b) An array is allowed to contain duplicate values.

c) An array understands the concept of ordered elements.

d) An array uses a zero index to reference the first element.

16. What is a possible output of the following code?

```
String[] strings = new String[2];  
System.out.println(strings);
```

a) [null, null]

b) [,]

c) [Ljava.lang.String;@74a14482

d) None of the above

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17. What does the following output?

```
String[] os = new String[] { "Mac", "Linux", "Windows" };  
Arrays.sort(os);  
System.out.println(Arrays.binarySearch(os, "Mac"));
```

- a) 0
- b) 1
- c) 2
- d) The output is not defined.