

Assignment: Arrays

Part A: MCQs

1. What is an array in Java?

- A. A collection of different data types
 - B. A collection of same data type values
 - C. A class
 - D. A package
-

2. Which of the following is the correct way to declare an array?

- A. `int arr[];`
 - B. `int[] arr;`
 - C. Both A and B
 - D. None
-

3. Array index in Java starts from?

- A. 1
 - B. 0
 - C. -1
 - D. Any number
-

4. What will be the size of this array?

```
int arr[] = {10, 20, 30};
```

- A. 2
 - B. 3
 - C. 4
 - D. Error
-

5. Which property is used to find array length?

- A. size
 - B. length()
 - C. length
 - D. getLength
-

6. Default value of int array elements is?

- A. 1
 - B. null
 - C. 0
 - D. garbage
-

7. Which loop is best suited for arrays?

- A. while
 - B. do-while
 - C. for
 - D. All
-

8. What happens if index is out of range?

- A. Compile-time error
 - B. Runtime error
 - C. No error
 - D. Warning
-

9. Which exception occurs for invalid index access?

- A. NullPointerException
 - B. NumberFormatException
 - C. ArrayIndexOutOfBoundsException
 - D. IOException
-

10. How do you access first element of array `arr`?

- A. `arr(0)`
 - B. `arr[1]`
 - C. `arr[0]`
 - D. `arr.first`
-

11. Can array store primitive data types?

- A. Yes
 - B. No
 - C. Sometimes
 - D. Only int
-

12. Can array size be changed after creation?

- A. Yes
 - B. No
 - C. Sometimes
 - D. Depends on data type
-

13. Which keyword is used to create array object?

- A. `create`
 - B. `array`
 - C. `new`
 - D. `make`
-

14. How many elements are in this array?

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

- A. 4
 - B. 5
 - C. 6
 - D. 0
-

15. Which data type stores characters?

- A. String
 - B. char
 - C. int
 - D. boolean
-

16. Which array holds true/false values?

- A. int
 - B. char
 - C. boolean
 - D. String
-

17. What is printed?

```
int a[] = {1,2,3};  
System.out.println(a.length);
```

- A. 2
 - B. 3
 - C. 4
 - D. Error
-

18. Arrays in Java are stored in?

- A. Stack
 - B. Heap
 - C. Register
 - D. CPU
-

19. Which is a valid array declaration?

- A. int arr[5];
 - B. arr int[];
 - C. int[] arr = new int[5];
 - D. array int arr;
-

by Kunal Sir

20. What does `arr[i]` represent?

- A. Index
 - B. Value at index i
 - C. Size
 - D. Memory address
-



CJC
Complete Java Classes

Part B: Problem Statements

1. Print Elements of an Array

Problem Statement:

Write a Java program that accepts multiple integer values from the user, stores them in an array, and prints all the elements of the array in the same order as entered.

Sample Input:

```
5
10 20 30 40 50
```

Sample Output:

```
10 20 30 40 50
```

2. Find Sum of Array Elements

Problem Statement:

Write a Java program to store integers in an array and calculate the total sum of all elements present in the array.

Sample Input:

```
4
5 10 15 20
```

Sample Output:

```
Sum = 50
```

3. Find Average of Array Elements

Problem Statement:

Write a Java program that calculates the average of all elements stored in an integer array by dividing the sum of elements by the total number of elements.

Sample Input:

```
3
10 20 30
```

Sample Output:

```
Average = 20
```

4. Find Maximum Element in Array

Problem Statement:

Write a Java program to find and display the largest element present in an integer array entered by the user.

Sample Input:

```
5
12 45 2 89 34
```

Sample Output:

```
Maximum = 89
```

5. Find Minimum Element in Array

Problem Statement:

Write a Java program to identify and display the smallest element from the array values provided by the user.

Sample Input:

```
4
25 5 40 10
```

Sample Output:

```
Minimum = 5
```

6. Count Even Numbers in Array

Problem Statement:

Write a Java program that counts how many even numbers are present in the given integer array.

Sample Input:

```
6
2 5 8 9 12 3
```

Sample Output:

```
Even Count = 3
```

7. Search an Element in Array

Problem Statement:

Write a Java program that searches for a specific number in an array and displays whether the element is found or not.

Sample Input:

```
5
10 20 30 40 50
Search = 30
```

Sample Output:

```
Element Found
```

8. Reverse an Array

Problem Statement:

Write a Java program to display all array elements in reverse order without changing the original array.

Sample Input:

```
4
1 2 3 4
```

Sample Output:

```
4 3 2 1
```

9. Count Positive Numbers in Array

Problem Statement:

Write a Java program that counts the total number of positive integers present in the array.

Sample Input:

```
5
-2 5 -1 8 3
```

Sample Output:

```
Positive Count = 3
```

10. Replace Negative Numbers with Zero

Problem Statement:

Write a Java program that replaces all negative numbers in the array with zero and prints the updated array.

Sample Input:

```
5
-1 4 -3 6 2
```

Sample Output:

```
0 4 0 6 2
```
