

9/9: Week 2-3 Review Worksheet
CSE 302 - Data Structures

Name:

Total Correct:

Q1. What is the time complexity of accessing an element in an array using its index?

- a. $O(1)$
- b. $O(n)$
- c. $O(\log n)$
- d. $O(n^2)$

Q2. Which of the following best describes the time complexity of searching for an element in an unsorted array?

- a. $O(1)$
- b. $O(\log n)$
- c. $O(n)$
- d. $O(n \log n)$

Q3. Consider the following code snippet:

```
int arr[] = {10, 20, 30, 40, 50};  
int* ptr = arr;  
ptr += 3;  
cout << *ptr;
```

What will be the output of this code?

- a. 10
- b. 20

- c. 30
 - d. 40
-

Q4. How do you declare an array of 10 integers in C++?

- a. `int array[10];`
 - b. `int array;`
 - c. `int array[9];`
 - d. `array int[10];`
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Q5. Which of the following best describes a pointer in C++?

- a. A variable that stores the value of another variable
 - b. A variable that stores the memory address of another variable
 - c. A function that returns an address
 - d. A variable that stores the size of an array
-

Q6. Consider the following code snippet:

```
int arr[5] = {1, 2, 3, 4, 5};  
int* p = &arr[2];  
cout << *(p + 1);
```

What will be the output of this code?

- a. 1
- b. 2
- c. 4
- d. 5

Q7. What is the value of `arr[2]` in the following array?

```
int arr[5] = {10, 20, 30, 40, 50};
```

- a. 10
- b. 20
- c. 30
- d. 40

Q8. Given the following code:

```
int a = 5;  
int* ptr = &a;  
*ptr = 10;  
cout << a;
```

What will be the output?

- a. 5
- b. 10
- c. 0
- d. Garbage value

Q9. Which of the following statements about pointers is true?

- a. A pointer can store any type of data.
- b. Pointers cannot be incremented or decremented.
- c. A pointer to an integer must be declared as `int*`.
- d. Pointers are not allowed to point to another pointer.

Q10. What will the following code output?

```
int arr[] = {1, 2, 3};  
  
cout << arr[0];
```

- a. 1
 - b. 2
 - c. 3
 - d. Garbage value
-

Q11. Consider the following code snippet:

```
int x = 10;  
int y = 20;  
int* ptr1 = &x;  
int* ptr2 = &y;  
*ptr1 = *ptr2;  
cout << x;
```

What will be the output?

- a. 10
 - b. 20
 - c. 30
 - d. 0
-

Q12. Which of the following describes the worst-case time complexity of binary search on a sorted array?

a. $O(1)$

b. $O(n)$

c. $O(\log n)$

d. $O(n^2)$