



Worksheets

Name

DS Lab 2

Total questions: 10

Worksheet time: 5mins

Instructor name: Yasmin Kandil

Class

Date

1. This part of code is a part of which function?

```
for (int i = mySize; i > pos; i--)  
myArray[i] = myArray[i - 1];
```

 - a) erase
 - b) insert
 - c) display
2. If the capacity of a static list is fixed, what happens when you try to insert into a full list?
 - a) The last element is overwritten
 - b) A new array is created
 - c) Program throws an error or terminates
 - d) Oldest elements are deleted automatically
3. Which of the following best describes a static list?
 - a) A fixed-size, array-based list
 - b) A linked list with dynamic allocation
 - c) A circular buffer
 - d) A resizable sequence of elements
4. Which operator is typically overloaded to output objects using cout?
 - a) >>
 - b) =
 - c) []
 - d) <<
5. Which of the following is true about a constructor?
 - a) It destroys objects
 - b) It is always private
 - c) It must have the same name as the class
 - d) It can return a value

6. `void print(int n) {
 if (n == 0) return;
 cout << n << " ";
 print(n - 1);
}`

What will be the output for `print(3)`

a) 0 1 2

b) 1 2 3

c) 3 2 1

d) infinite recursion

7. What ensures that recursion terminates?

a) General Case

b) Function Overloading

c) Base Case

d) Global Variable

8. `int sum(int n) {
 if (n == 0) return 0;
 return n + sum(n - 1);
}`

What does `sum(4)` return?

a) 10

b) 4

c) 6

d) 24

```
9. class Base {  
    public:  
    void show() { cout << "Base"; }  
};  
class Derived : public Base {  
    public:  
    void show() { cout << "Derived"; }  
};  
int main() {  
    Derived d;  
    d.show();  
}  
what's the output?
```

- | | |
|----------|----------------|
| a) error | b) Derived |
| c) Base | d) BaseDerived |

10. Which of the following statements about destructors is **false**?

- | | |
|--|---|
| a) A class can have multiple destructors with parameters | b) Destructors take no arguments |
| c) Destructors are automatically called when objects go out of scope | d) A destructor has the same name as the class, prefixed with ~ |

Answer Keys

- | | | |
|--|---|--------------------------------------|
| 1. b) insert | 2. c) Program throws an error or terminates | 3. a) A fixed-size, array-based list |
| 4. d) << | 5. c) It must have the same name as the class | 6. c) 3 2 1 |
| 7. c) Base Case | 8. a) 10 | 9. b) Derived |
| 10. a) A class can have multiple destructors with parameters | | |

