7. Choose appropriate word for each blank.

Method	Constructor	Overload	Instance	Object
Shallow Copy	Deep Copy	Private	Public	Destructor
LIFO	FIFO	Inheritance	Polymorphism	Encapsulation
Copy Constructor	Assignment Operator	Definition	Pointers	Self Assignment
Terminates	Friend Keyword	New	Delete	Shallow Copy

(1) (5 points) When assigning one object to another, a **shallow copy** only duplicates the memory addresses of dynamically allocated resources, while a **deep copy** allocates new memory and duplicates the actual data.

(2) (5 points) In a class, members that should only be accessible by methods of the same class are declared as **private** , while members that should be accessible from outside the class are declared as **public** .

(3) (5 points) Stacks use the **LIFO** principle, while a queues use the **FIFO** principle.

(4) (3 points) The ability of a function or operator to behave differently based on the types or number of arguments is known as **polymorphism** .

(5) (7 points) The **"Rule of Three"** states that if a class requires a **destructor** , a **copy constructor** , or an **assignment** operator, it likely needs all three due to resource management needs such as dynamic memory.

(6) (3 points) The assignment operator should check for **self-assignment** to avoid issues like overwriting oneself, which can lead to unexpected behavior or errors such as freeing memory that's still in use.

(7) (3 points) When defining a class in C++, a method with the same name as the class is called a **constructor** .

(8) (3 points) In C++, the **friend** keyword allows a function or class to access the private and protected members of another class, thus bypassing the concept of **encapsulation** , which normally restricts direct access to an object's internal state.

(9) (7 points) When you create a class the code that blueprints the class is the class's **Definition** and when you create an **Instance** of that class we call it an **Object** .