# Assignment.1

1. What is a class?

A class is a programming construct that defines the common state and A class is a programming construct that defines the common state and behavior of a group of

similar objects.

2. How does a class accomplish abstraction, encapsulation, and data hiding?

Abstraction:

Abstract the essential operational features of a problem and express a solution in those terms. In the softball statistics example, the interface describes how the user initializes, updates, and displays the data. From abstraction, it is a short step to the user-defined type, which in C++ is a class design that implements the abstract interface

Encapsulation:

C++ supports the properties of encapsulation and data hiding through the creation of user-defined types, called **classes**. We already have studied that a class can contain **private, protected**and **public** members. By default, all items defined in a class are private.

4. In what way, aside from being functions, are class function members different from class data members?

Data members aren't accessed outside the class and they are private

Function members are the interface to the outside and that is how the

The class can interact.

5. Define a class to represent a bank account. Data members should include the depositor’s name, the account number (use a string), and the balance. Member functions should allow the following:

- Creating an object and initializing it.

- Displaying the depositor’s name, account number, and balance

- Depositing an amount of money given by an argument

- Withdrawing an amount of money given by an argument

Just show the class declaration, not the method implementations. (Programming

Exercise 1 provides you with an opportunity to write the implementation.)

6. When are class constructors called? When are class destructors called?

Class constructors are called at the beginning of initializing the object and class destructors are called when the object is deleted.

7. Provide code for a constructor for the bank account class from Chapter Review

Question 5.

8. What is a default constructor? What is the advantage of having one?

It's the constructor that is responsible for creating the object by allocating memory for it.

9. Modify the stock class definition (the version in stock20.h) so that it has member functions that return the values of the individual data members.

Note: A member that returns the company name should not provide a weapon for altering the array. That is, it can’t simply return a string reference. It could return a const reference.

10. What are this and \*this?

**This** pointer is an implicit parameter to all member functions. Therefore, inside a member function, this may be used to refer to the invoking object.