CSCI-2275 Programming and Data Structures Recitation 3
Instructor: Rhonda Hoenigman

Learning objectives:

- Learn about classes
- How and when to use inheritance
- Function overloading

1. Classes

The building block of C++ (and many other languages) that leads to Object Oriented programming is a Class.

It is a user defined data type, which holds its own data members and member functions, which can be accessed and used by creating an instance of that class.

A class is like a blueprint and the actual thing will be an object.

For Example: Consider the Class of Vehicles. There may be many different types of vehicles like cars, trucks, bikes etc. but all the vehicles might have some things in common. All vehicles will have some number of wheels, a maximum speed it can achieve and it's capacity.

Classes is a part of one of the key programming concept named encapsulation. Encapsulation means keeping related things together.

Classes can also have functions. Functions in classes are meant to be logically related to the classes and shouldn't be something that is not related to contents of the class.

Example how to declare classes and use them can be found in the files.

2. Inheritance

In our vehicle example we are saw how a vehicle can be of various types where those type will have some different properties. In C++ we can code this concept with another very important programming concept named inheritance.

When a class is inherited it will also have all the variables and methods of the base class.

3. Exercise

Let’s look at the file on canvas. Create your own class for car with the given variables. Create an array of cars and read the input from the file in the folder. Then print all the details of cars whose capacity is 4 or more than 4.