Software Development Lab – II [15B17CI271]
Assignment Sheet
Week 6B

COURSE OUTCOMES		COGNITIVE LEVELS
C173.1	Write programs in C++ to implement OOPs concepts related to objects, classes, constructor, destructor, and friend function.	Apply Level (Level 3)
C173.2	Write programs in C++ using OOPs concept like encapsulation, inheritance, polymorphism and abstraction.	Apply Level (Level 3)
C173.3	Write programs in C++ using Standard Template Library.	Apply Level (Level 3)
C173.4	Perform exception handling in C++ programs.	Apply Level (Level 3)
C173.5	Write MySQL queries to perform operations like ADD, DELETE, UPDATE, SELECT on relational databases.	Apply Level (Level 3)

Note: Students are advised to submit their solutions to respective lab faculty. The solution file must be named as "rollno_first name_w6B.doc" (here w6B represents week 6B).

1. Create a domain model for online shopping. The purpose of the diagram is to introduce some common terms, "dictionary" for online shopping - Customer, Web User, Account, Shopping Cart, Product, Order, Payment, etc. and relationships between. It could be used as a common ground between business analysts and software developers.

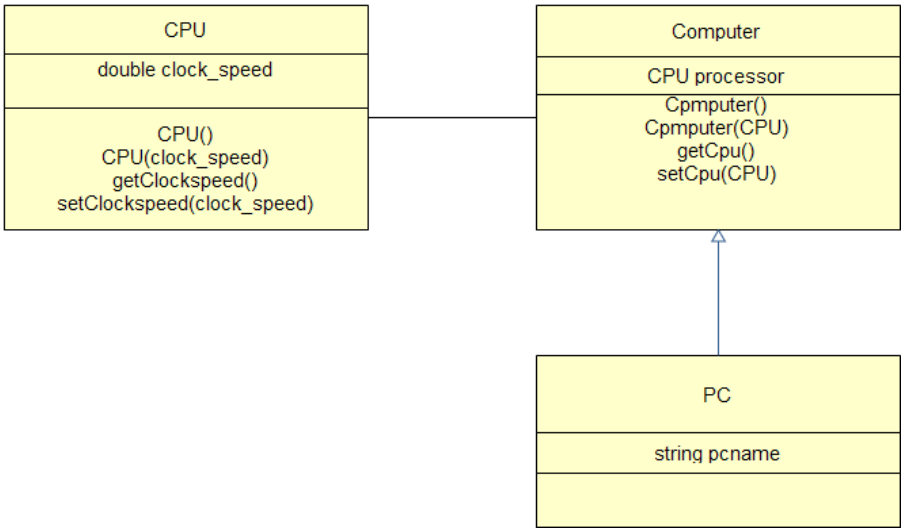
   - Each customer has unique id and is linked to exactly one **account**. Account owns shopping cart and orders. Customer could register as a web user to be able to buy items online. Customer is not required to be a web user because purchases could also be made by phone or by ordering from catalogues. Web user has login name which also serves as unique id. Web user could be in several states - new, active, temporary blocked, or banned, and be linked to a **shopping cart**. Shopping cart belongs to account.

   - Account owns customer orders. Customer may have no orders. Customer orders are sorted and unique. Each order could refer to several **payments**, possibly none. Every payment has unique id and is related to exactly one account.

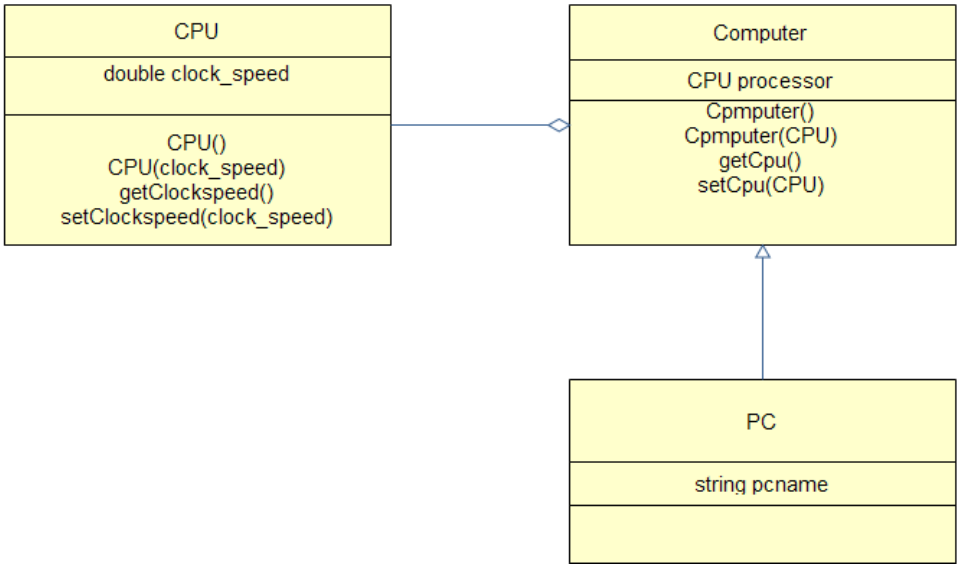
   - Each order has current order status. Both order and shopping cart have **line items** linked to a specific product. Each line item is related to exactly one product. A product could be associated to many line items or no item at all.

2. Implement the following relationships in C++.

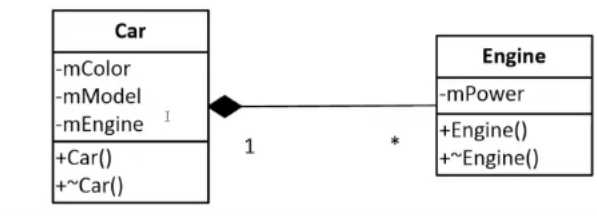
(i)



(ii)



(iii)



3. Design an online library of photographs where users can create and update their profile, upload images and share them with their friends. Class Diagram must include the following classes: Photo, JPEG, Bitmap, GIF, Photo Album, User. Following are the system requirements that are to be satisfied:

(a) Each user creates and modify their profile
(b) Each user searches for friends and friend others
(c) Each user accepts or deny friend requests
(d) Each user creates, stores and views albums
(e) Each user creates, deletes, stores, views, and organizes photos
(f) Each user mark photos as public, private, or friends-only
(g) Each user adds comments to both photos and albums