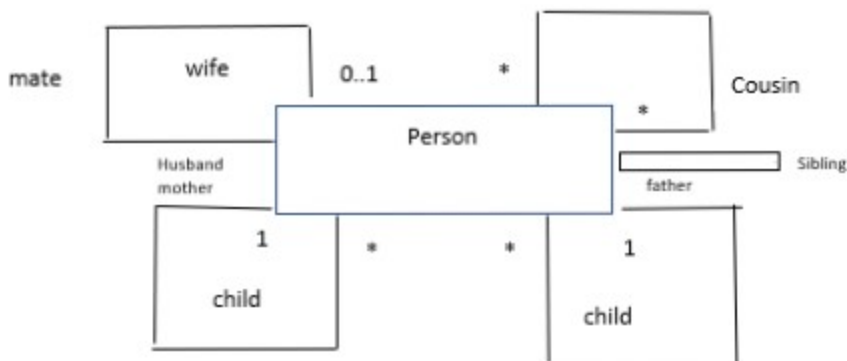
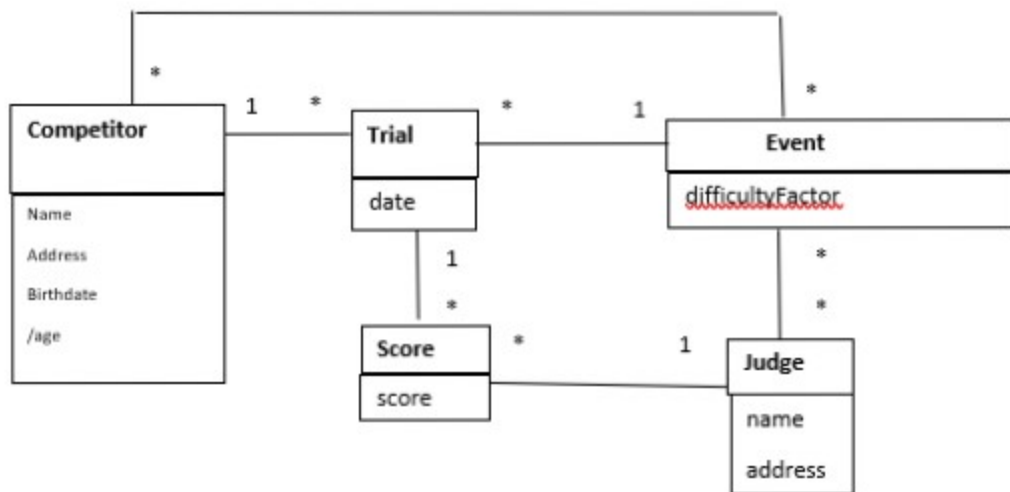


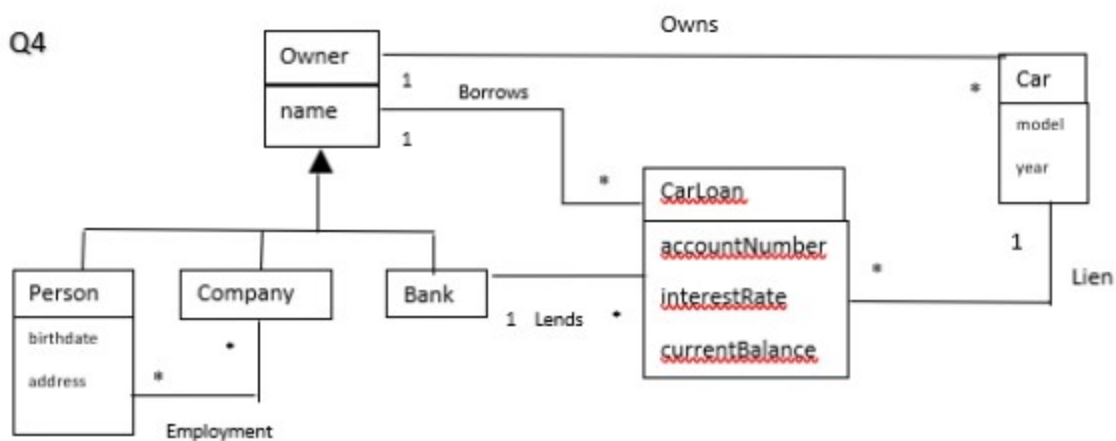
Q1



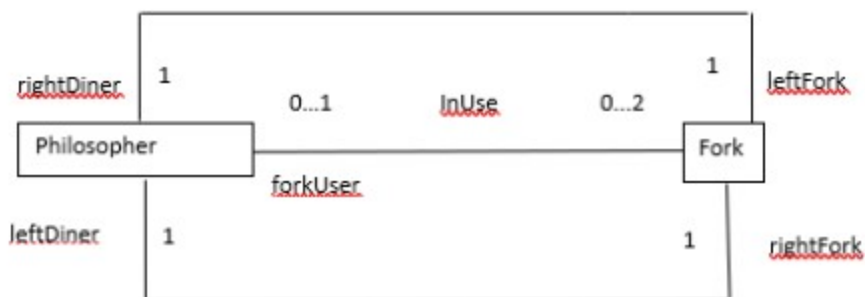
Q3



Q4



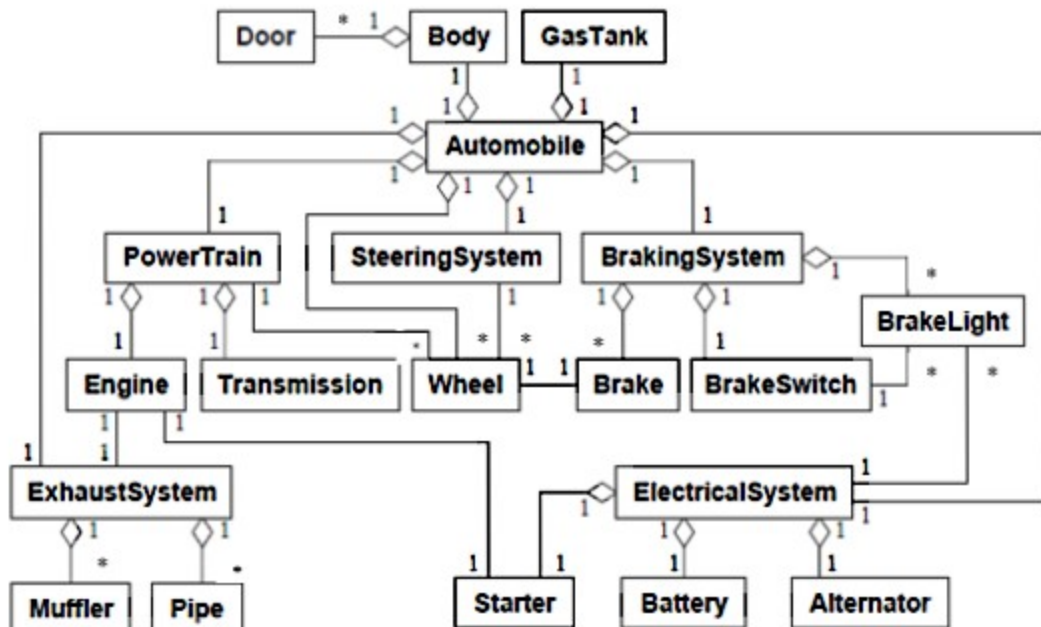
Q5



Q6

Model (a) states that the subscription has derived identity. (b) Gives the subscription more prominence and makes subscription to a class. The (b) model is the better model. Most magazines have codes on their labels, this could be used as attribute. The codes are used to identify subscriptions, subscriptions aren't intended by a person and magazine thus we should promote Subscription to a class. Only the (b) model shows this.

Q7



Q8. a. Association. A capital city and a country are distinct things so generalization certainly doesn't apply. One could also argue that a capital city is a part of a country and thus they are related by aggregation.

b. Association. Dining philosophers and forks are completely distinct things and are therefore not in a generalization relationship. Also neither object is a part of the other and the relationship isn't an aggregation.

c. Generalization. The word "or" is a key indicator of a generalization. File is the superclass and OrdinaryFile and DirectoryFile are subclasses.

d. Aggregation, the word "contain" is a key indicator that the relationship is an aggregation. A record is a part of a file. Some of the attributes and operations on files propagate to their constituent records.

e. Aggregation. The phrase "Is composed of" is the key indication that there is an aggregation. An ordered set of points is part of a polygon. Some of the attributes and operations on a polygon propagate to the corresponding set of points.

f. Generalization. Again the word "or" is the key indicator. DrawingObject is the superclass. Text, GeometricalObject, and Group are subclasses.

g. Ternary association. Person, ComputerLanguage, and Project are all classes of equal stature. The association can't be reduced to binary associations. Also none of them are apart of another class so it's safe to say generalization and aggregation need not apply.

h. Generalization. The key indicator is "are". Modem and Keyboard are the subclasses. InputOutputDevice is the superclass.

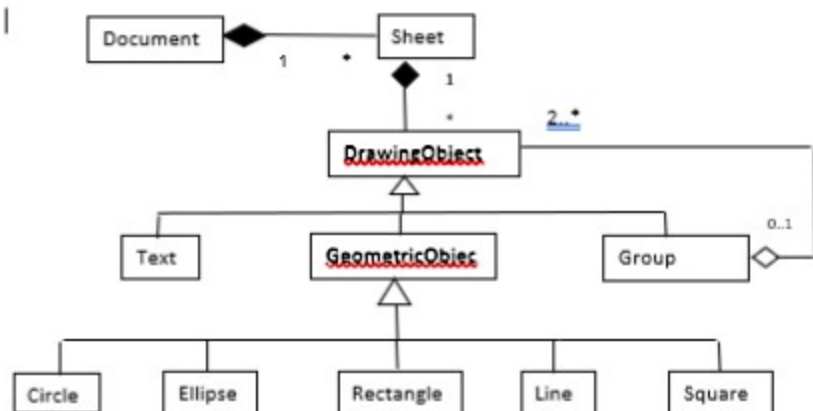
i. Association. The key Indicator is "may".

j. Ternary association. Person, Team, and Year are all classes of equal stature.

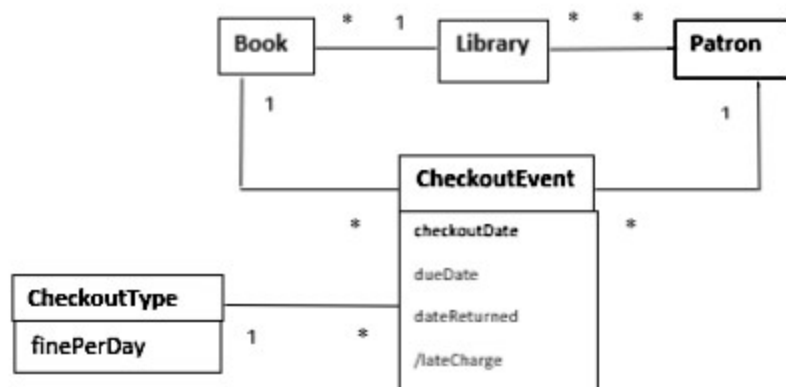
k. Association. Route is a class associated with the City Class or Route is the association from City to City.

l. Ternary association. Student, Course, and Professor are distinct classes of equal stature.

Q9.



Q10



Q11

