CS230 3.1.4 Collaboration Descriptions

Composition:

Resources class is composed of the Laptop, Book and DVD classes. Laptop, Book and DVD are all considered types of Resources but have various differing attributes, this is why a composition relationship is used, as each of the classes related to the Resources class is considered to be an extension of the class itself.

Account class is composed of User and Librarian classes. User and Librarian are two different types of Account with differing privileges. A composition relationship is used due to the User and Librarian being extensions of the Accounts class.

Aggregation:

Copies class is an aggregate of the Laptop, Book and DVD classes, it uses these classes to create various different copies of each Resource in order to keep track of how many copies of each resource are available to be taken out and when copies are expected to return. Copies also uses the User and Librarians classes, Librarians can issue Copies of Resources to Users. These are aggregate relationships as the copies only needs to use data in the classes, it does not inherit from them.