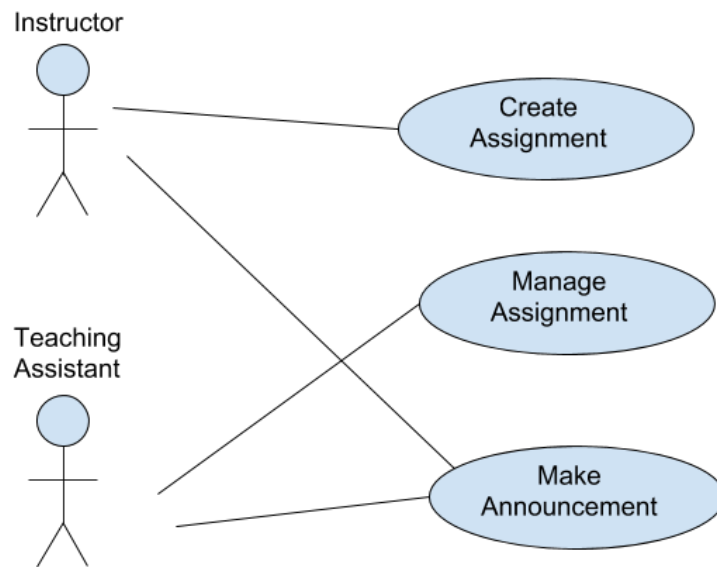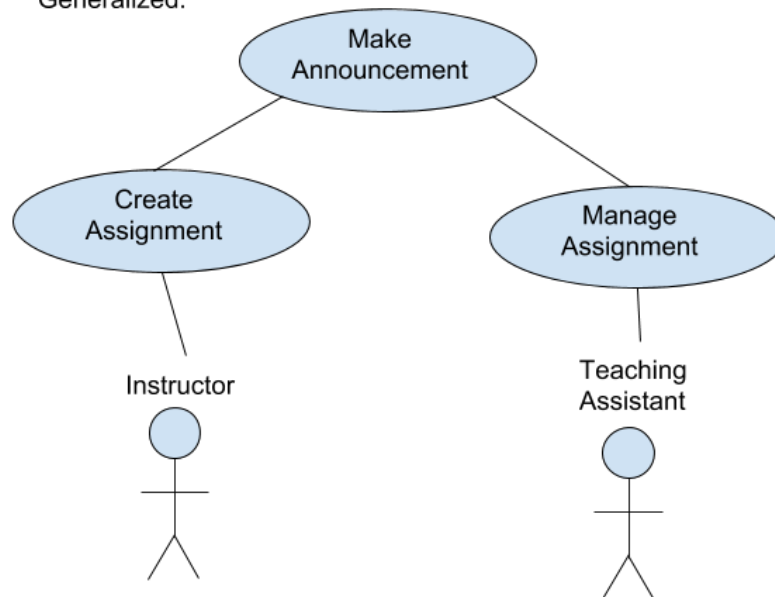Assignment One Ryan Lebeau
COMP-3220

1. Yes, both diagram a and b represent the same data. In diagram a the professor and student both query the student data directly whereas in b they reference an abstract class (research associate) who then directly queries the student data. Since this research associate is abstract, there is no difference if they where to go through that or directly query themselves.
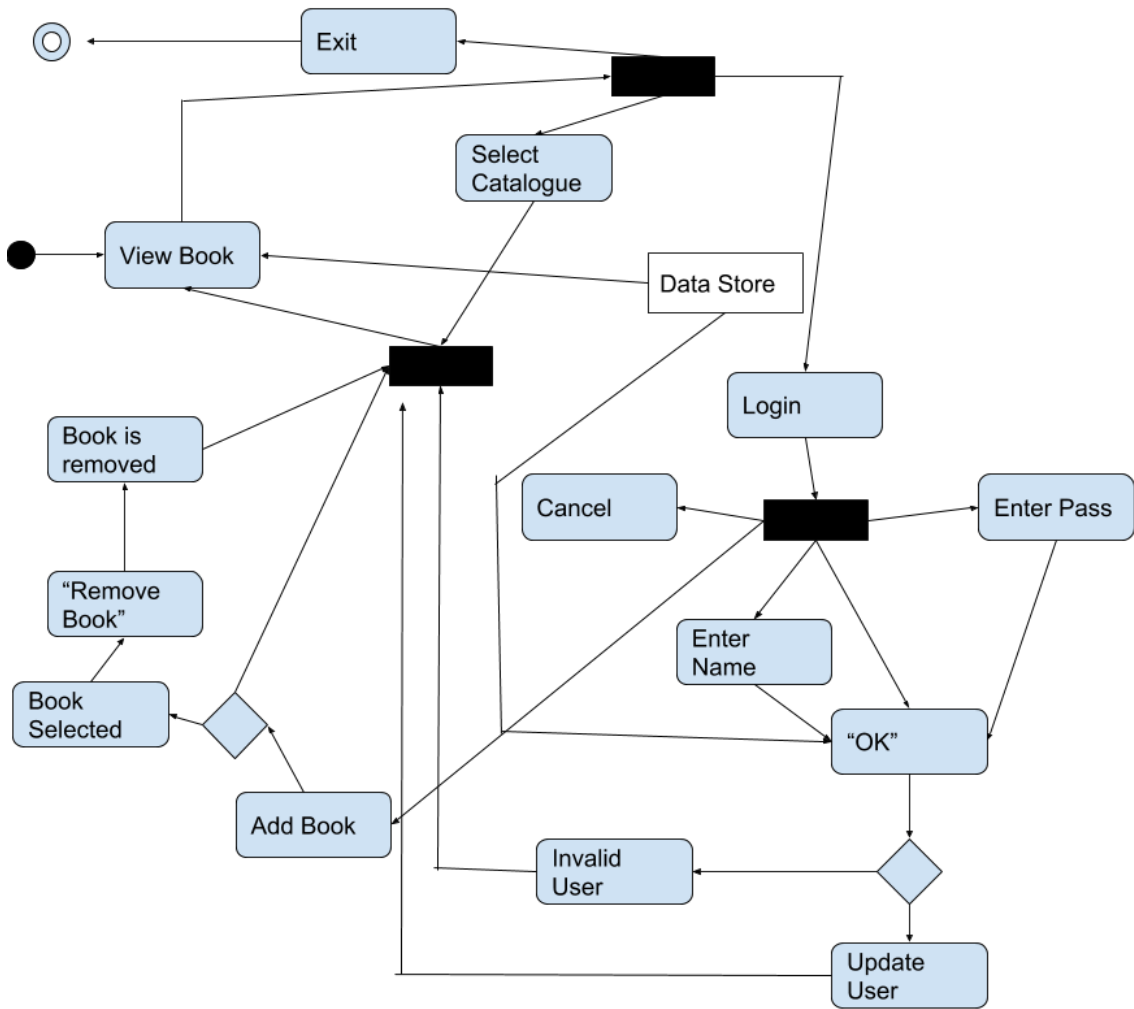
2.

Instructor

Create
Assignment

Manage
Assignment

Teaching
Assistant

Make
Announcement

Generalized:

Make
Announcement

Create
Assignment

Manage
Assignment

Instructor

Teaching
Assistant

3.



State diagram:

- Exit → (final state)
- (initial black bar/fork) → Select Catalogue
- View Book (from initial node ●)
- Select Catalogue → (join bar)
- Data Store → View Book
- Login
- Cancel
- Enter Pass
- Enter Name
- "OK"
- Invalid User
- Update User
- Book is removed → "Remove Book" → Book Selected → (decision diamond) → Add Book

4.

User                 :System

User adds book

System adds book

User selects book
and clicks remove

System removes book