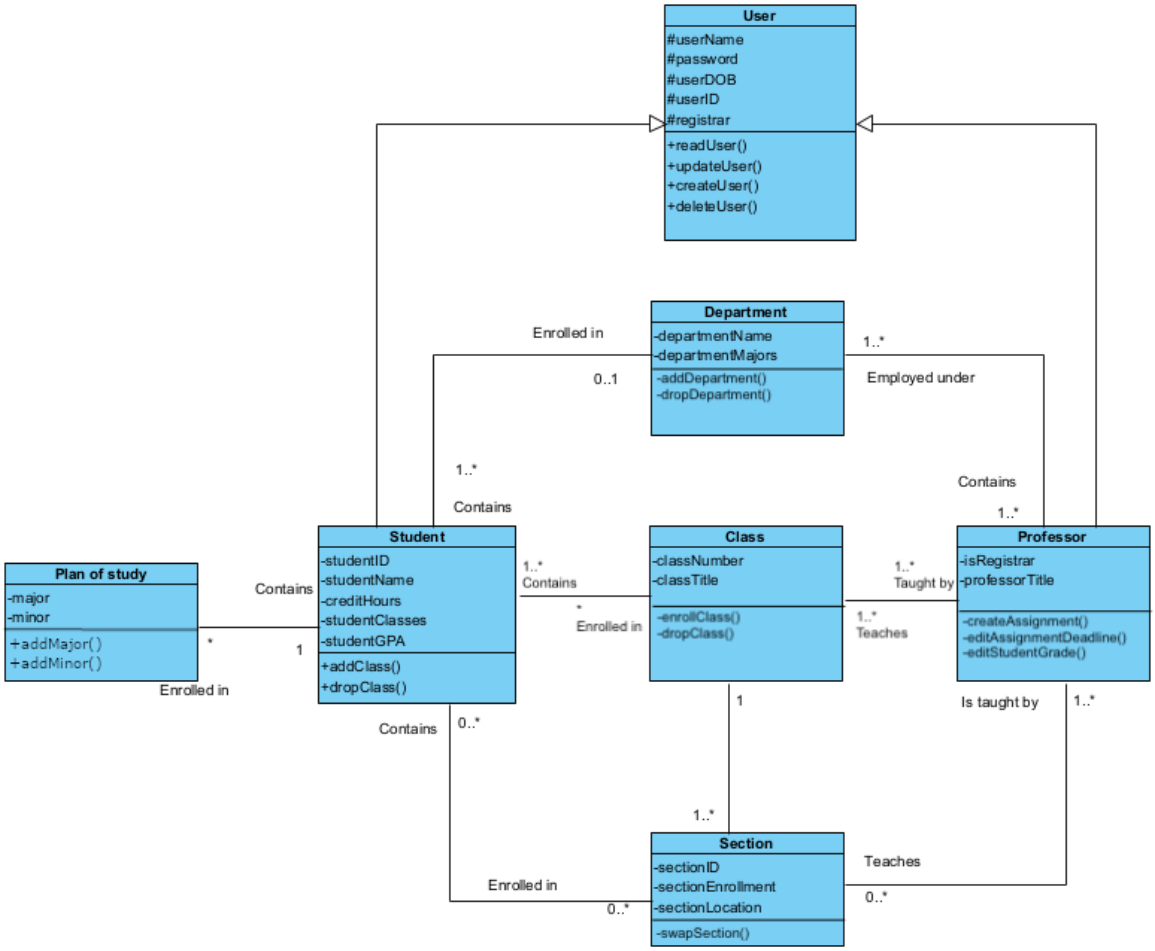
CNIT 182
Lab 5: Unified Modeling Language & Class Diagrams

EXERCISES

Complete the exercises assigned by your instructor by drawing the required models. Save each diagram. Copy and paste the diagrams into this document. Save this document to your home directory. Close this document. Attach this document to the Lab 5 Assignment in Brightspace and submit the assignment in Brightspace.

1. Duplicate the enrollment class diagram shown in the lab manual. Based on your knowledge of enrolling in college courses add other class objects, including **Section**, **Plan of study**, and **Department**. Add attributes and methods for each object. Add data relationships, naming them bi-directionally, and add multiplicity at each end of the relationship. Use generalization / specialization (super type/subtype) where appropriate.

   Answer:



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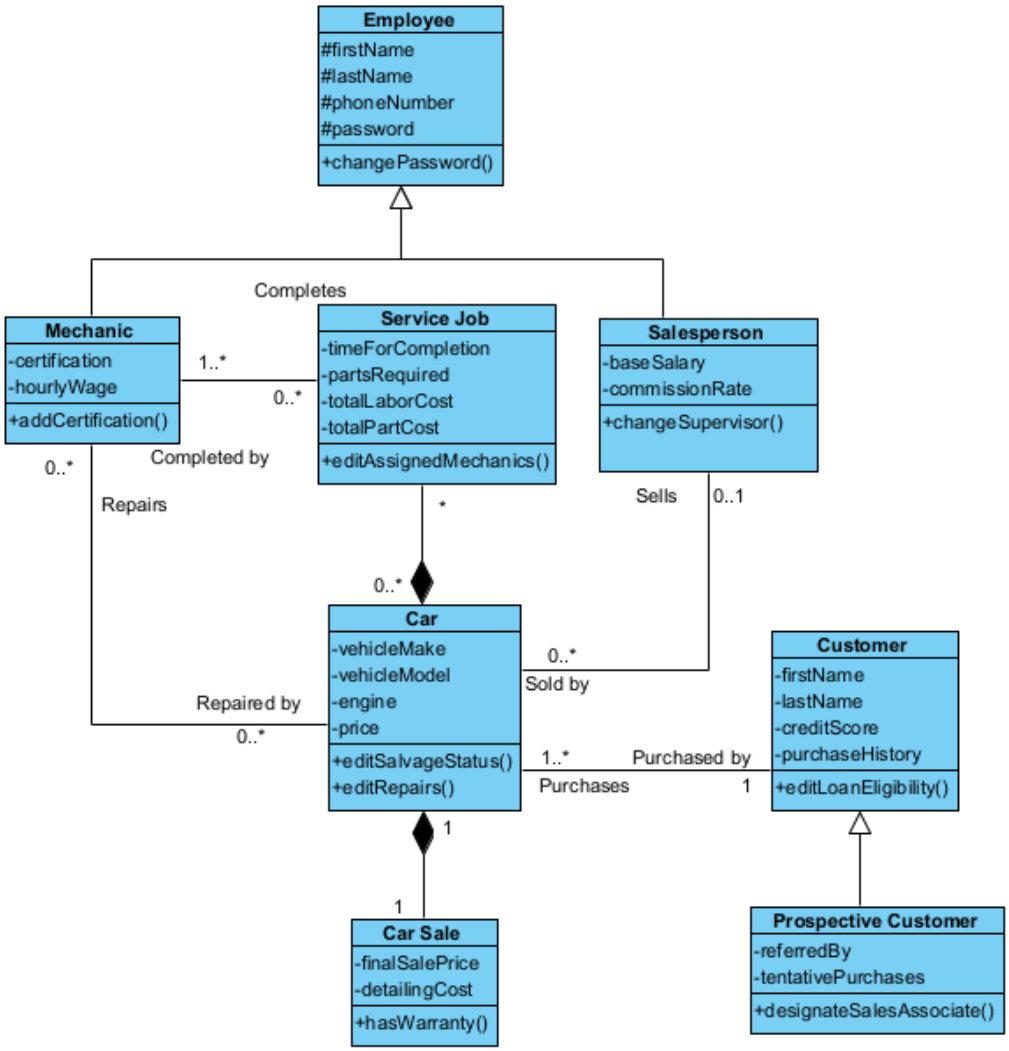
2. Draw a class diagram for the auto dealership class objects used earlier in the chapter: **Employee**, **Mechanic**, **Salesperson**, and **Car**. Revise the diagram with the following additional class objects: **Customer**, **Prospective Customer**, **Car Sale**, and **Service Job** (when a car is serviced). Add attributes and methods for each object. Add data relationships, naming them bi-directionally, and add multiplicity at each end of the relationship. Use generalization / specialization (super type/subtype) where appropriate.

Answer:



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3. Based on the following narrative, prepare a class diagram. Add attributes and methods for each object. Add data relationships, naming them bi-directionally, and add multiplicity at each end of the relationship. Use generalization / specialization (super type/subtype) where appropriate.

   Bob's car dealership sells new cars. Bob keeps customer information (first and last name, telephone number) and point of contact (first and last name, telephone phone number, and email address) information about each car manufacturer (name) with whom he deals with so he can get in touch with them easily. He also keeps address information (street, city, state and zip) for each customer, manufacturer and point of contact. In addition he also keeps information (vehicle identification number, list price, dealer cost [the price he paid the manufacturer], brand, model name, and year) about the vehicles he purchases from each manufacturer. He keeps information about the sale of each vehicle which includes the date sold, and the sold price. Assume Bob only sells new vehicles and they are only purchased by individuals.

   Answer: