

## CST4724 Homework Assignments

### Homework One: Relational Database Theory

1. Normalize data and provide an explanation for your normalization schema
2. Create the tables and insert the data using Oracle - provide screen shots of all commands used
3. Use the Describe and Select commands to show the structure and the data of all the tables you created - provide screen shots of your commands
4. Create three reports using joins which you feel would be necessary for managers/supervisors to have in order to effectively manage the day to day business operations of this business scenario. For each report, provide a screenshot showing the SQL used to execute the report AND the data obtained from running the SQL

### Homework Two: Graph Data Stores

1. Go to The Movie Database Website <https://www.themoviedb.org/?language=en-US>
2. Choose a movie that you like - write the name of the movie (ex. Movie A)
3. Find three major actors in the movie - write their names (ex. Movie A has actors X, Y, Z)
4. Find three major movies in addition to the one you have chosen for each actor and write down the movies (ex. for actor X the three movies are 1,2,3, for actor Y the three movies are 4,5,6 and for actor Z the three movies are 7,8,9)
5. For each of the three movies, for each of the three actors, write three additional actors that are acting in that movie (ex. Movie 1 has actors C,D,E, Movie 2 has actors F,G,H, Movie 3 has actors I,J,K, Movie 4 has actors L,M,N etc.)
6. Create nodes for 1) all the actors and 2) all the movies
7. Create relationships between
  1. the actors in your first chosen movie that they have acted in (ex actor X has acted in movie A, 1,2,3 and Actor Y has acted in movie A,4,5,6 etc.)
  2. the actors in your first chosen movie and their fellow actors (ex actor X has acted with actors C,D,E,F,G,H,I,J,K and actor Y has acted with actors L,M,N etc)
8. Query the data you have created
  1. What movies has each of the chosen actors played in (ex what movies has X played in etc)
  2. Which actors have played with your chosen actors (ex which actors have played alongside X, which actors have played alongside Y etc.)

### Homework Three: Document Stores

1. Create a MongoDB collection of the data
2. Insert the data in the collection
3. Show a screenshot of the create and the insert as well as the data
4. Show the list in ascending order - provide screenshots
5. Show the list in descending order - provide screenshots
6. Update a document of your choosing - provide screenshots of the old data, new data and the command used

7. Delete a document of your choosing - provide screenshots of the old data and the command as well as the message related to the execution of the command
8. Insert a new document - provide screenshots of the command and the data