CS307 Project1 Report

Basic Information of My Group

1. Member Information

Name Student IDs Lab session

罗皓予 12112517 lab3

李昱纬 12112513 lab3

1. Contributions

Tasks Percentage Details Name

Task1 5% idea provider 罗皓予

Task1 10% E-R diagram maker 李昱纬

Task2 15% DDL writer 罗皓予

Task2 10% checker 李昱纬

Task3 15% java script 罗皓予

Task3 10% other way 李昱纬

Task4 15% Database API 罗皓予

Task4 20% file API & analyse 李昱纬

Total 50% 罗皓予

Total 50% 李昱纬

Task 1: E-R Diagram (15% in total)

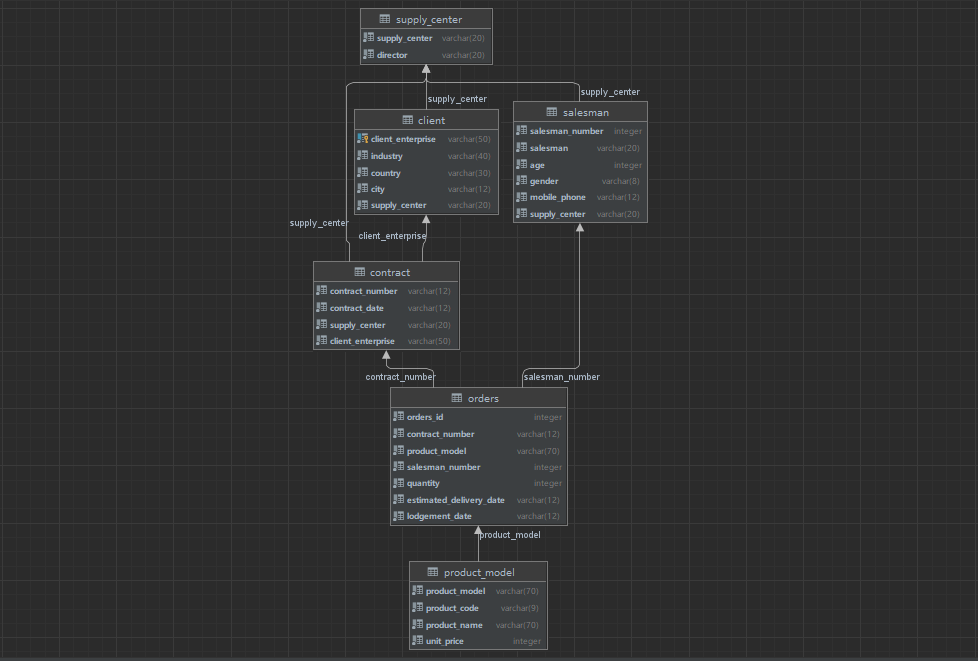
A snapshot of the E-R diagram:

![er图 cs307 project 1.pptm [自动保存的](1)_03](data:image/png;base64,)

The name of the diagram software: PowerPoint

Task 2: Database Design (25% in total)

1.The snapshot of the E-R diagram generated by DataGrip:



1. Description

Firstly，according to the product introduction and the data itself,we designed 11 table in the beginning to ensure the atomicity of database design. However, lately in consideration of query convenience and efficiency, we decided to simplify our database and reduce the amount of tables, while remain entities such as contract, supply center, client enterprise, salesman unchanged. Finally, we design only 6 tables for our database which are contract, supply center, client enterprise, order, product\_model and salesman.

Secondly, it is the description for the connection between the tables.

At first, it is obvious that a contract contains several orders which sell different product in different model and different price to a client enterprise. So we separate orders and client enterprise from contract while orders contains information about product, salesman.

Then ,we found that there are same product name in different orders but the product model is unique, hence we make product\_model as a table but not price. Actually we had thought about making a connection table between product\_name and product\_model which passes its serial id to order, yet we still keep them in one table because there is just a few different model cases and one table design will be better to have a query. Thus,a order contains a product model.

After that, one order has one salesman and one salesman is in charge of plural orders. In addition, each salesman belongs to his supply center and one supply center has plural salesmen.

Besides, when inserting data, we found that one client enterprise has plural contract. And one client enterprise is supplied by one supply center and one supply center supplies plural client enterprise.

Thirdly, it is the description for the columns.

For product\_model, we have product\_name, product\_code, unit price and product\_model in this table. Follow the explanation above, product\_model is unique and easy to search so that we set it primary key and foreign key.

For salesman, we have salesman, salesman number, gender, age, mobile phone and supply center in this table. On account that we find duplicate name phenomenon while analyzing data, we set salesman number which is unique as the primary key and foreign key to connect table orders and it. Besides, supply center is set as a foreign key to connect table supply center.

For orders, we have