following questions using your own words, diagrams and examples:

1. Discuss each of the following concepts in the context of the relational data model:
    1. Relation

A relation is a table, it is one class that has expanded to fit data into the specified attributes

    2. Attribute

Attributes are columns of a table, like name, DOB and country

    3. Domain

A domain is a set of values that have been assigned to an attribute. If you had an attribute called name, the domain would be all the names contained within it; (James, Sam, Bob)

    4. Tuple

Tuples are the rows of a table.

    5. intension and extension

Intension refers to the structure of a relation or the structure of the data types or their data types. In Task 5 I had assigned price to a data type of INT NO NULL, meaning that it is an integer and that it can't be left blank.

Extension means adding more rows to a table, extending a given table beyond it's existing stored data. Like adding a new order or customer.

    6. degree and cardinality

Degree is the number of column in a table. A table called user that had a userID, First, Last, Email would have a degree of 4.

Cardinality is the number of rows that are in a table, if you had stored 100 users to the table user, the table would have a cardinality of 100.

1. Discuss the difference between the candidate keys and primary keys?

Candidate keys and primary keys as data are essentially the same, it is just that a primary key contains some piece of data that uniquely identifies a table and so has been chosen to uniquely identify the table. This could be seen in a user account table, say you have three

pieces of data (userNum, Country, DOB), the userNum is an int of 6 uniquely identifying digits, Country is the users country and DOB is their date of birth. For both Country and DOB, these are data entries that could be shared by other people in a database, thus choosing a unique data point as the primary key will allow for proper differentiation of tables when they are stored.

2. Explain what is meant by a foreign key?

A foreign key defines a column, or group of columns in one table, so that they can be referred to in another table. If I have two tables, customer and order, customer has a customerID, and in the order table it can refer to the customerID so that a order can belong to a certain customer.

3. Database design is quite complex and important. Discuss the role played by users during the design process

Users will allow database designers to understand how their databases will be used, and how they can build in rules that define how the database should accept user inputs.

4. Describe the purpose of normalizing data

Normalisation is the process of organising data in a database, following rules that have been built into the database by the designers

5. Briefly describe the basic SQL DDL statements and explain their use

CREATE TABLE - Creates a new table

DROP TABLE - Deletes a table and its contained data

ALTER TABLE - Allows users to add, modify and drop column, constraints and tables