# Database Project

## Data Modelling

1. Identify the Entities
2. Identify the Relationships
3. Identify Attributes
4. Identify PK and FK
5. Draw high-level conceptual ER data model (10%)
6. Logical relational data model (Database Schema with tables, columns and keys clearly identified) (10%)
7. Both conceptual and logical models should appear in the document

* **BELOW ARE ENTITIES AND ATTRIBUTES COVERED IN CLASS**
* **WE NEED TO COMPLETE THIS SECTION BEFORE MOVING ON TO THE REST**

|  |
| --- |
| GAMES LOOKUP |
| GAME\_ID(PK) |
| GAME\_NAME |
| STORE\_ID |

|  |
| --- |
| STORES LOOKUP |
| STORE\_ID(PK) |
| STORE\_CITY |
| STORE\_COUNTRY |

|  |
| --- |
| CUSTOMER LOOKUP |
| CUSTOMER\_ID(PK) |
| CUSTOMER\_NUMBER |
|  |

|  |
| --- |
| RENTAL LOOKUP |
| RENTAL\_ID(PK) |
| RENTAL\_PRICES |
| RENTAL\_DATE |
| RENTAL\_RETURN\_DATE |

## Create Database Structure

1. Create a database for the Game Rentals system
2. Create database tables choosing appropriate data types
3. Identify primary keys and link tables by foreign keys
4. The DDL code for the database structure should appear in the document.

* **DOES INCLUDING THE DML COVER THE ABOVE 4?**
* **UP TO DATE DML AVAILABLE BELOW**

DROP DATABASE IF EXISTS gamerental;

CREATE DATABASE gamerental;

USE gamerental;

CREATE TABLE GAMES (

GAME\_ID VARCHAR(10) PRIMARY KEY,

GAME\_NAME VARCHAR(35) NOT NULL,

STORE\_ID    CHAR(2));

CREATE TABLE STORES(

STORE\_ID  VARCHAR(10) PRIMARY KEY,

STORE\_CITY VARCHAR(50) NOT NULL,

STORE\_COUNTRY CHAR(2) NOT NULL);

CREATE TABLE CUSTOMER (

CUSTOMER\_ID NUMERIC(4) PRIMARY KEY,

CUSTOMER\_NUMBER VARCHAR(4)

);

CREATE TABLE RENTAL (

RENTAL\_ID    VARCHAR(50) PRIMARY KEY,

RENTAL\_PRICES VARCHAR(50) NOT NULL,

RENTAL\_DATE  VARCHAR(50) NOT NULL,

RENTAL\_RETURN\_DATE VARCHAR(50) NOT NULL);

CONSTRAINT FK\_STORE\_ID FOREIGN KEY(STORE\_ID) REFERENCES STORES(STORE\_ID));

/\* CREATING AN INDEX ON EMP\_LNAME IN THE  EMPLOYEE TABLE  \*/

CREATE INDEX EMP\_LNAME\_INDEX ON EMPLOYEE(EMP\_LNAME(8));

commit;

## Load Database with Appropriate Data

* **DML NEEDS TO BE COMPLETED TO START THIS SECTION**

## Querying and Reporting

**1. Identify 5 database queries that will produce important information for the business**

1. Games available in each store
2. Games customers currently have rented
3. Games customers have rented in the past
4. When a game is rented as well as the rental price
5. When a game is due to be returned

**2. Implement these queries in DML**

* SELECT statements

**3. Each query with a short description of what it does and why it is important to the business should appear in the document along with sample output from each.**

* Explain the 5 queries above if the team agree on them