Practice sheet-1 E-R diagrams and SQL

Name: _____

Roll No: _____

Section: _____

Questions

1. A weak entity set in an ER diagram represents a collection of entities for which we have not discovered a key yet. Later in the design phase when we learn more about the domain, this set will be converted into a strong entity set by adding the appropriate attributes.
   a) True
   b) False
   c) Can be converted into strong in some conditions
2. A relation may have a number of candidate keys, but has only one primary key.
   a) True
   b) False
3. Create an ER diagram for the following specification:
   • A bank has a database with accounts.
   • For each account it records the (unique) account number and the current balance.
   • There are two types of accounts: chequing and savings. Savings accounts have an interest rate. Chequing accounts have a monthly fee.
   • The database also has information about depositors — their name, (unique) social-insurance number, and a single address.
   • The bank stores, for each account, the depositor or depositors (in the case of joint accounts), that own the account.
   • Each account must have at least one depositor.

4. Consider a relational database about hotels, customers (guests) and their bookings that is maintained by an online hotelbooking company. The database consisting of the following tables(where the primary keys are underlined):

   Hotel (<u>hId</u>, hName, hAddress, hCity)

   Guest(<u>gId</u>, gName, gAddress, gCity)

   Room(<u>hid</u>, <u>roomNo</u>, type, price)

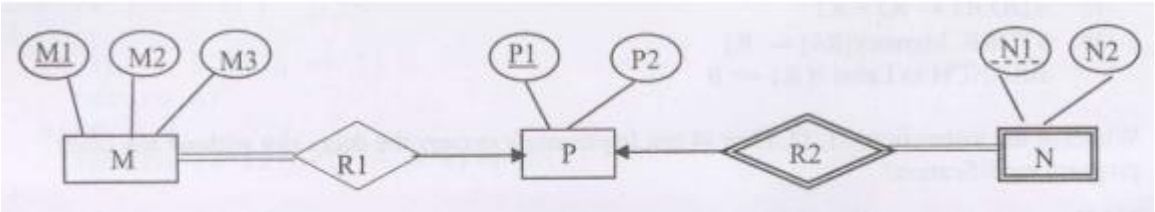
   Booking(<u>gId</u>, <u>hId</u>, <u>roomNo</u>, f<u>romDate, year</u>, noOfDays)

   Create the above tables and insert data in the tables accordingly

5. In an Entity-Relationship (ER) model, suppose R is a many-to-one relationship from entity set E1 to entity set E2. Assume that E1 and E2 participate totally in R and that the cardinality of E1 is greater than the cardinality of E2. Which one of the following is true about R?

(A) Every entity in E1 is associated with exactly one entity in E2.
(B) Some entity in E1 is associated with more than one entity in E2.
(C) Every entity in E2 is associated with exactly one entity in E
(D) Every entity in E2 is associated with at most one entity in E1.

6. Consider the following E-R model



The minimum number of tables needed to represent M, N, P, R1, R2 is

a) 2
b) 3
c) 4
d) 5