**IT 4153 Advanced Database**

**Module 1 Review**

**Practice Exercise**

Normalize the following table to 3d normal form

|  |  |  |  |
| --- | --- | --- | --- |
| Customer Name | Customer email | Product Ordered | Product Price |
| Bob Smith | bsmith@spsu.edu | Chair | $50 |
|  |  | Night Stand | $75 |
| Ann Loney | aloney@spsu.edu | Chair | $50 |
| John Dow | jdow@spsu.edu | Table | $100 |
| Bill Jones | bjones@spsu.edu | Table | $100 |
|  |  | Chair | $50 |

Create all tables, primary keys, reference keys and write three queries to find the following information:

1st query: Find all customers whose first or last name has a letter "n" in it.

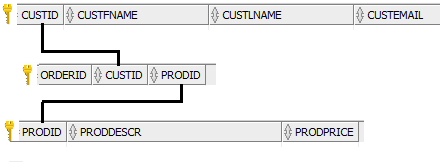
2nd query: Find customer IDs of all customers who ordered chairs.

3d query: List details of all orders. Each order must include customer name, what was ordered and the price of the item.

STOP here do not check answers on the next page. First complete the assignment yourself.

**Answers**

After normalization you should have three tables Customers, Products, and Orders.



If you already have tables:

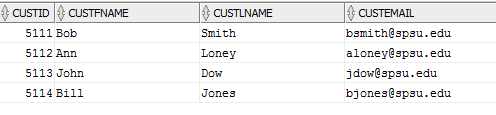
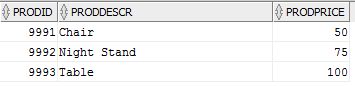
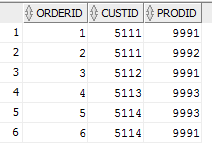
drop table customers;  
drop table products;  
drop table orders;  
  
It is better to use varchar2 than char <https://asktom.oracle.com/pls/apex/f?p=100:11:0::::P11_QUESTION_ID:123212348063>   
CREATE TABLE CUSTOMERS(  
CustID NUMBER(4,0) NOT NULL PRIMARY KEY,  
CustFName CHAR(20) NOT NULL,  
CustLName CHAR(20) NOT NULL,  
CustEmail CHAR(30) NOT NULL);

CREATE TABLE PRODUCTS(  
ProdID NUMBER(4,0) NOT NULL PRIMARY KEY,  
ProdDescr CHAR(30) NOT NULL,  
ProdPrice NUMBER(5,2) NOT NULL);  
CREATE TABLE ORDERS(  
OrderID NUMBER(4,0) NOT NULL PRIMARY KEY,  
CustID NUMBER(4,0) NOT NULL REFERENCES Customers(CustID),  
ProdID NUMBER(4,0) NOT NULL REFERENCES Products(ProdID));

Insert INTO Customers VALUES (5111, 'Bob', 'Smith', 'bsmith@spsu.edu');  
Insert INTO Customers VALUES (5112, 'Ann', 'Loney', 'aloney@spsu.edu');  
Insert INTO Customers VALUES (5113, 'John', 'Dow', 'jdow@spsu.edu');  
Insert INTO Customers VALUES (5114, 'Bill', 'Jones', 'bjones@spsu.edu');

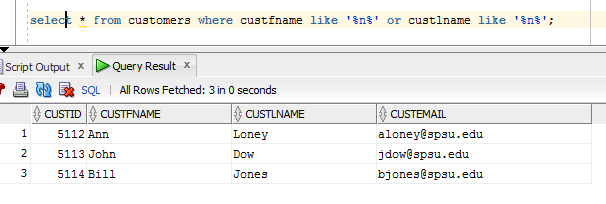
Insert INTO Products VALUES (9991, 'Chair', 50);  
Insert INTO Products VALUES (9992, 'Night Stand', 75);  
Insert INTO Products VALUES (9993, 'Table', 100);

Insert INTO Orders VALUES (1, 5111, 9991);  
Insert INTO Orders VALUES (2, 5111, 9992);  
Insert INTO Orders VALUES (3, 5112, 9991);  
Insert INTO Orders VALUES (4, 5113, 9993);  
Insert INTO Orders VALUES (5, 5114, 9993);  
Insert INTO Orders VALUES (6, 5114, 9991);

select \* from customers;  
select \* from products;  
select \* from orders;  
  
  


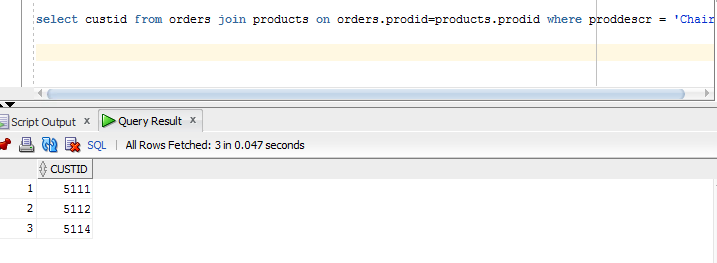
1st query: Find all customers whose first or last name has a letter "n" in it.

select \* from customers where custfname like '%n%' or custlname like '%n%';



2nd: Find customer IDs of customers who ordered chairs.

select custid from orders join products on orders.prodid=products.prodid where proddescr = 'Chair';



3d query: List details of all orders. Each order must include customer name, what was ordered and the price of the item.

select custfname,custlname,proddescr,prodprice from customers, orders, products where customers.custid = orders.custid and orders.prodid=products.prodid;

