**Parts (PNO, Pnafme, Qoh, Price, OLevel) /\*Qoh stands for quantity on hand\*/**

**Customers (CNO, CName, Street, Zip, Phone)**

**Employees (ENO, EName, Zip, HDate)**

**Zip Codes (Zip, City)**

**Orders (ONO, CNO, ENO, Received, Shipped)**

**ODetails (ONO, PNO, Qty)**

**a) Create the tables and enter at least 5 sets of records in each table created that will help in retrieving data from your database.**

**b) Write the following queries in SQL. No duplicates should be printed in any of the answers. Output should display at least one record set.**

**1. Retrieve the names and cities of employees who have taken orders for parts costing more than $ 50.00.**

**2. Retrieve the pairs of customer number, customers who live in the same zip code.**

**3. For every customer, who have ordered exactly '2' parts from employees living in 'Wellington', retrieve the part name and the price of the part.**

**4. Retrieve the names of customers who have not placed an order.**

CREATE TABLE Parts (

PNO NUMBER PRIMARY KEY,

Pname VARCHAR2(100),

Qoh NUMBER,

Price NUMBER(10 ,2),

OLevel NUMBER

);

INSERT INTO Parts VALUES (1 ,’A’,10,50.00,30);

INSERT INTO Parts VALUES (2 ,’B’,20,60.00,50);

INSERT INTO Parts VALUES (3 ,’C’,10,70.00,40);

CREATE TABLE Customers (

CNO NUMBER PRIMARY KEY,

CName VARCHAR2(100),

Street VARCHAR2(100),

Zip NUMBER,

Phone NUMBER

);

INSERT INTO Customers VALUES (101 ,’John’,’s1’,111,9831529746);

INSERT INTO Customers VALUES (102 ,’Dan’,’s2’,111,9830989646);

INSERT INTO Customers VALUES (103 ,’Jedan’,’s3’,112,9830509346);

INSERT INTO Customers VALUES (104 ,’Arthur’,’s4’,113,9732509546);

CREATE TABLE Employees (

ENO NUMBER PRIMARY KEY,

EName VARCHAR2(100),

Zip NUMBER,

HDate DATE

);

INSERT INTO Employees VALUES (1001 ,’Akash’,101,TO\_DATE(’2004-03-11’,’YYYY-MM-DD’));

INSERT INTO Employees VALUES (1002 ,’Badal’,102,TO\_DATE(’2004-05-12’,’YYYY-MM-DD’));

INSERT INTO Employees VALUES (1003 ,’Jatin’,103,TO\_DATE(’2004-03-11’,’YYYY-MM-DD’));

CREATE TABLE Zip\_Codes (

Zip NUMBER PRIMARY KEY,

City VARCHAR2(100)

);

INSERT INTO Zip\_Codes VALUES (101 ,’Wellington’);  
INSERT INTO Zip\_Codes VALUES (102 ,’Berlington’);

INSERT INTO Zip\_Codes VALUES (103 ,’Washington’);

CREATE TABLE Orders (

ONO VARCHAR2(10) PRIMARY KEY,

CNO NUMBER REFERENCES Customers(CNO) ON DELETE CASCADE,

ENO NUMBER REFERENCES Employees(ENO) ON DELETE CASCADE,

Received DATE,

Shipped DATE

);

INSERT INTO Orders VALUES (’O1’,101,1001, TO\_DATE(’2004-05-10’ ,’YYYY-MM-DD’), TO\_DATE(’2004-05-01’ ,’YYYY-MM-DD’));

INSERT INTO Orders VALUES (’O2’,102,1002, TO\_DATE(’2004-05-16’ ,’YYYY-MM-DD’), TO\_DATE(’2004-05-11’ ,’YYYY-MM-DD’));

INSERT INTO Orders VALUES (’O3’,103,1003, TO\_DATE(’2004-05-20’ ,’YYYY-MM-DD’), TO\_DATE(’2004-05-15’ ,’YYYY-MM-DD’));

INSERT INTO Orders VALUES (’O4’,101,1001, TO\_DATE(’2004-05-10’ ,’YYYY-MM-DD’), TO\_DATE(’2004-05-01’ ,’YYYY-MM-DD’));

CREATE TABLE ODetails (

ONO VARCHAR2(10) REFERENCES Orders(ONO) ON DELETE CASCADE,

PNO NUMBER REFERENCES Parts(PNO) ON DELETE CASCADE,

Qty NUMBER

);

INSERT INTO ODetails VALUES (’O1’,1,2);

INSERT INTO ODetails VALUES (’O2’,2,2);

INSERT INTO ODetails VALUES (’O3’,3,3);

INSERT INTO ODetails VALUES (’O4’,2,1);

Q1: Retrieve the names and cities of employees who have taken orders for parts costing more than $50.00

SELECT E.EName , Z.City FROM Employees E JOIN Orders O ON E.ENO = O.ENO

JOIN ODetails OD ON O.ONO = OD.ONO JOIN Parts P ON OD.PNO = P.PNO

JOIN Zip\_Codes Z ON E.Zip = Z.Zip WHERE P.Price > 50.00;

Q2: Retrieve the pairs of customer number, customers who live in the same zip code

SELECT C1.CNO AS CUSTOMER1 , C2.CNO AS CUSTOMER2 FROM Customers C1 JOIN

Customers C2 ON C1.Zip = C2.Zip AND C1.CNO < C2.CNO;

Q3: For every customer who has ordered exactly '2' parts from employees living in 'Wellington', retrieve the part name and the price of the part

SELECT C.CNO, P.Pname, P.Price

FROM Customers C

JOIN Orders O ON C.CNO = O.CNO

JOIN Employees E ON O.ENO = E.ENO

JOIN Zip\_Codes Z ON E.Zip = Z.Zip

JOIN ODetails OD ON O.ONO = OD.ONO

JOIN Parts P ON OD.PNO = P.PNO

WHERE Z.City = 'Wellington'

AND C.CNO IN (

SELECT C2.CNO

FROM Customers C2

JOIN Orders O2 ON C2.CNO = O2.CNO

JOIN Employees E2 ON O2.ENO = E2.ENO

JOIN Zip\_Codes Z2 ON E2.Zip = Z2.Zip

JOIN ODetails OD2 ON O2.ONO = OD2.ONO

WHERE Z2.City = 'Wellington'

GROUP BY C2.CNO

HAVING COUNT(DISTINCT OD2.PNO) = 2

);

Q4: Retrieve the names of customers who have not placed an order.

SELECT C.CName FROM Customers C

WHERE C.CNO NOT IN (SELECT DISTINCT CNO FROM Orders)