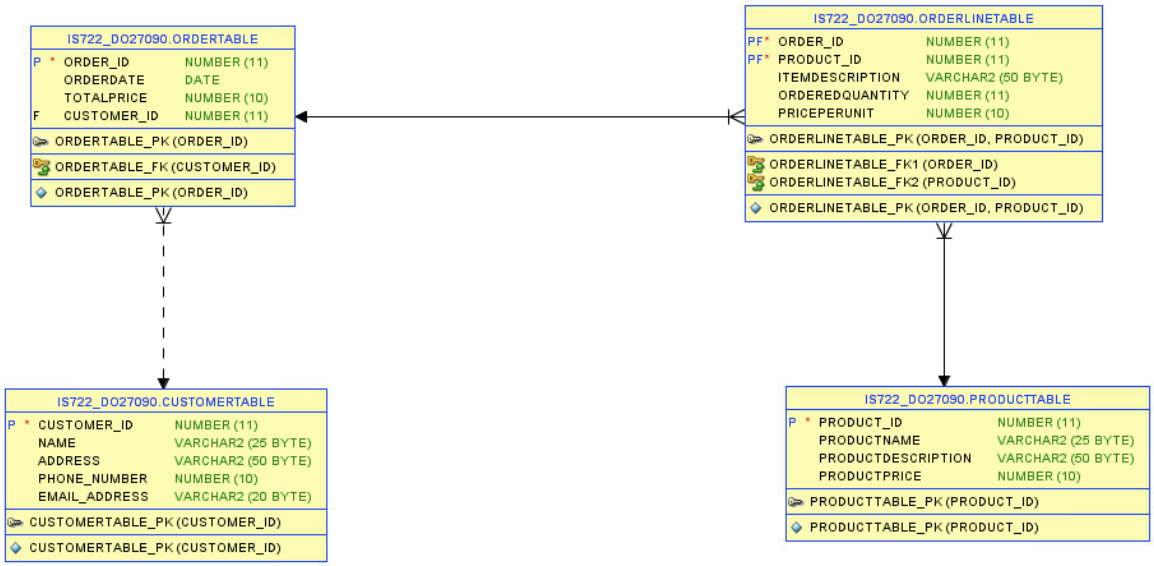
Ordering database

1. ER Diagram



2. SQL Commands:

```
DROP TABLE OrderLineTable;
DROP TABLE OrderTable;
DROP TABLE ProductTable;
DROP TABLE CustomerTable;

Create Table CustomerTable
        (Customer_ID        NUMBER(11,0)            NOT NULL,
        Name                VARCHAR2(25),
        Address                 VARCHAR2(50),
        Phone_number        NUMBER(10),
        Email_address       VARCHAR2(20),
CONSTRAINT CustomerTable_PK PRIMARY KEY (Customer_ID));

Create Table ProductTable
        (Product_ID                     NUMBER(11,0)            NOT NULL,
        ProductName                     VARCHAR2(25),
        ProductDescription  VARCHAR2(50),
        ProductPrice                    NUMBER(10),
CONSTRAINT ProductTable_PK PRIMARY KEY (Product_ID));

Create Table OrderTable
        (Order_ID                       NUMBER(11,0)            NOT NULL,
        OrderDate                   DATE DEFAULT SYSDATE,
        TotalPrice                      NUMBER(10),
        Customer_ID                     NUMBER(11,0),
CONSTRAINT OrderTable_PK PRIMARY KEY (Order_ID),
```

```
CONSTRAINT OrderTable_FK FOREIGN KEY (Customer_ID) REFERENCES
CustomerTable(Customer_ID));

Create Table OrderLineTable
        (Order_ID                   NUMBER(11,0)        NOT NULL,
        Product_ID                  NUMBER(11,0)        NOT NULL,
        ItemDescription                 VARCHAR2(50),
        OrderedQuantity             NUMBER(11,0),
        PricePerUnit                NUMBER(10),
CONSTRAINT OrderLineTable_PK PRIMARY KEY (Order_ID, Product_ID),
CONSTRAINT OrderLineTable_FK1 FOREIGN KEY (Order_ID) REFERENCES
OrderTable(Order_ID),
CONSTRAINT OrderLineTable_FK2 FOREIGN KEY (Product_ID) REFERENCES
ProductTable(Product_ID));


Insert into CustomerTable values (1,          'John',     'Courtney Road',     4456781241,
        'john@yahoo.com');
Insert into CustomerTable values (2,      'Jack',     'Westland',         4567142562,
'jack@yahoo.com');
Insert into CustomerTable values (3,      'Marry',    'Maiden Choice',    4617654367,
'marry@gmail,com');
Insert into CustomerTable values (4,      'Kate',     'Westland',         4567342123,
'kate1@gmail.com');
Insert into CustomerTable values (5,      'Henry',    'Elicot City',      4987415673,
'henry32@gmail.com');
Insert into CustomerTable values (6,      'Jackson',  'Halethorpe',       4986254765,
'jackson89@gmail.com');
Insert into CustomerTable values (7,      'Sara',     'Park road',        2189654367,
'sara@gmail.com');
Insert into CustomerTable values (8,      'Mandy',    'Parkers avenue',   2765347865,
'mandy@gmail.com');
Insert into CustomerTable values (9,      'Hurley',   'Courtney Road',    4765346234,
'hurley@yahoo.com');
Insert into CustomerTable values (10,     'Jessica',  'Park road',        4895643234,
'jessica@hotmail.com');

Insert into ProductTable values (1,       'Laptop',     'MacBook Air',     700);
Insert into ProductTable values (2,       'Laptop',           'Microsoft Surface',           900);
Insert into ProductTable values (3,       'Laptop',           'MacBook Pro',           1200);
Insert into ProductTable values (4,       'iPad',           'iPad Pro',           650);
Insert into ProductTable values (5,       'iPad',           'iPad Mini',           500);
Insert into ProductTable values (6,       'Tab',           'Samsung Galaxy',           500);
Insert into ProductTable values (7,       'Phone',           'iPhone XS',           1000);
Insert into ProductTable values (8,       'Phone',           'iPhone XS Max',           1100);
Insert into ProductTable values (9,       'Desktop PC',           'Dell',           1500);
Insert into ProductTable values (10,      'Desktop PC',           'Lenovo',           1300);

Insert into OrderTable values (1,      TO_DATE('3-DEC-2019', 'DD-MON-YYYY'),     3000,
1);
```

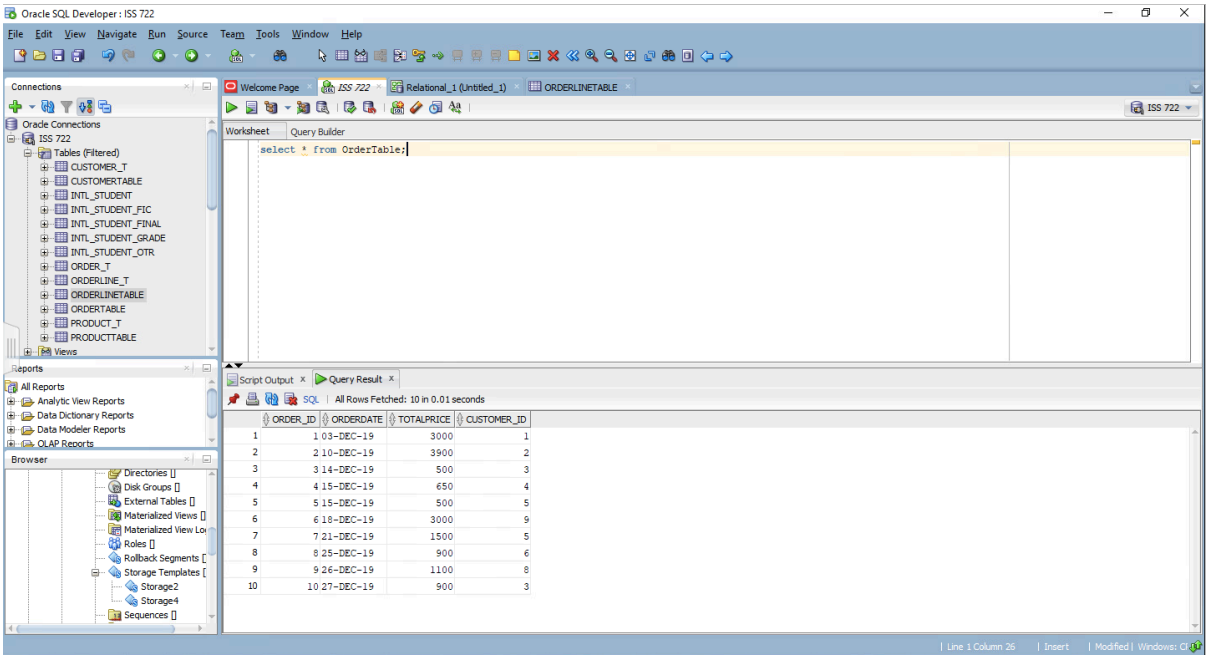
```
Insert into OrderTable values (2,      TO_DATE('10-DEC-2019', 'DD-MON-YYYY'),
3900,      2);
Insert into OrderTable values (3,      TO_DATE('14-DEC-2019', 'DD-MON-YYYY'),     500,
3);
Insert into OrderTable values (4,      TO_DATE('15-DEC-2019', 'DD-MON-YYYY'),     650,
4);
Insert into OrderTable values (5,      TO_DATE('15-DEC-2019', 'DD-MON-YYYY'),     500,
5);
Insert into OrderTable values (6,      TO_DATE('18-DEC-2019', 'DD-MON-YYYY'),
3000,      9);
Insert into OrderTable values (7,      TO_DATE('21-DEC-2019', 'DD-MON-YYYY'),
1500,      5);
Insert into OrderTable values (8,      TO_DATE('25-DEC-2019', 'DD-MON-YYYY'),     900,
6);
Insert into OrderTable values (9,      TO_DATE('26-DEC-2019', 'DD-MON-YYYY'),
1100,      8);
Insert into OrderTable values (10,     TO_DATE('27-DEC-2019', 'DD-MON-YYYY'),
900,      3);

Insert into OrderLineTable values (1,  1,  'MacBook Air',      1,  700);
Insert into OrderLineTable values (1,  7,  'iPhone XS',        1,  1000);
Insert into OrderLineTable values (1,  10, 'Lenovo',           1,  1300);
Insert into OrderLineTable values (2,  3,  'MacBook Pro',      2,  1200);
Insert into OrderLineTable values (2,  9,  'Dell',             1,  1500);
Insert into OrderLineTable values (3,  5,  'iPad Mini',        1,  500);
Insert into OrderLineTable values (4,  4,  'iPad Pro',         1,  650);
Insert into OrderLineTable values (5,  6,  'Samsung Galaxy',   1,  500);
Insert into OrderLineTable values (9,  8,  'iPhone XS Max',    1,  1100);
Insert into OrderLineTable values (10, 2,  'Microsoft Surface',1,  900);
Insert into OrderLineTable values (8, 2,  'Microsoft Surface',1,  900);
Insert into OrderLineTable values (7,  9,  'Dell',             1,  1500);
Insert into OrderLineTable values (6,  9,  'Dell',             2,  1500);
```

3. Operations:

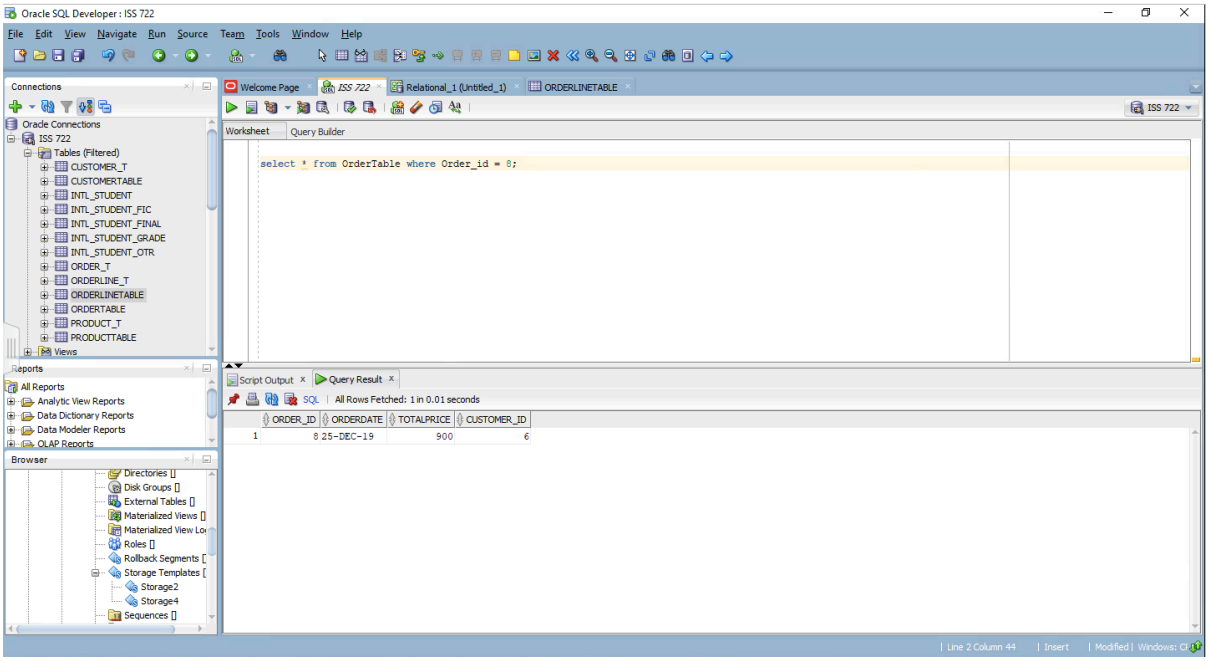
    a. List all orders in the database (just a few columns for each order)

    ```
    select * from OrderTable;
    ```



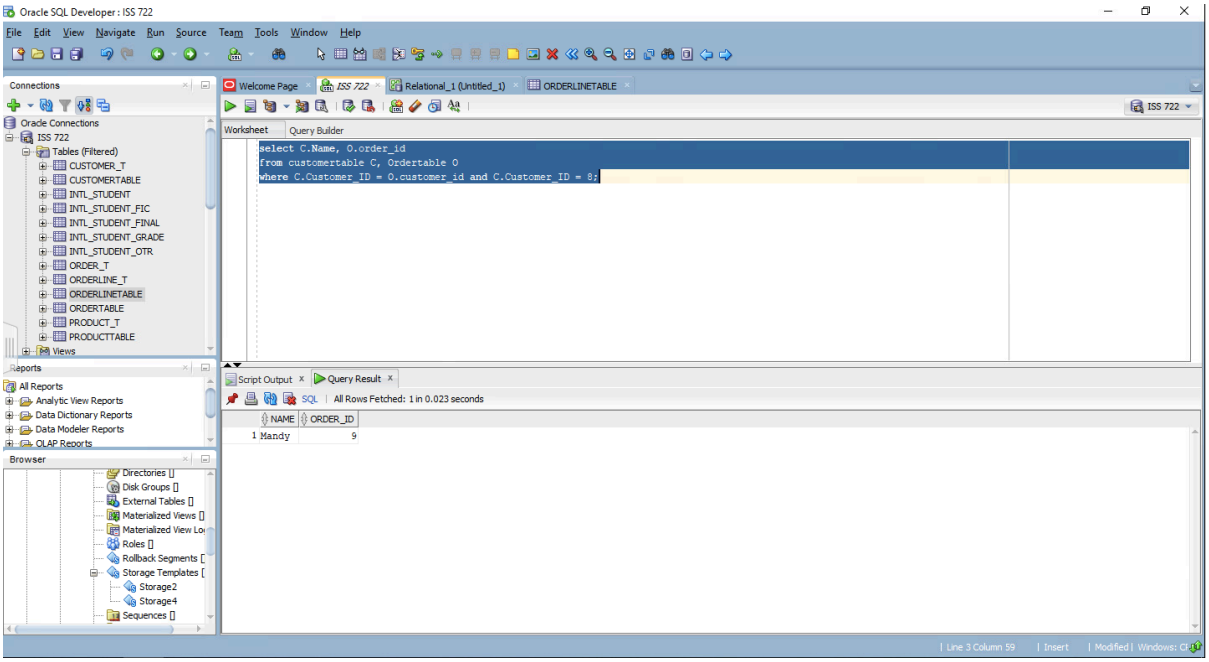
b. List all details of an order, given its unique identifier

select * from OrderTable where Order_id = 8;



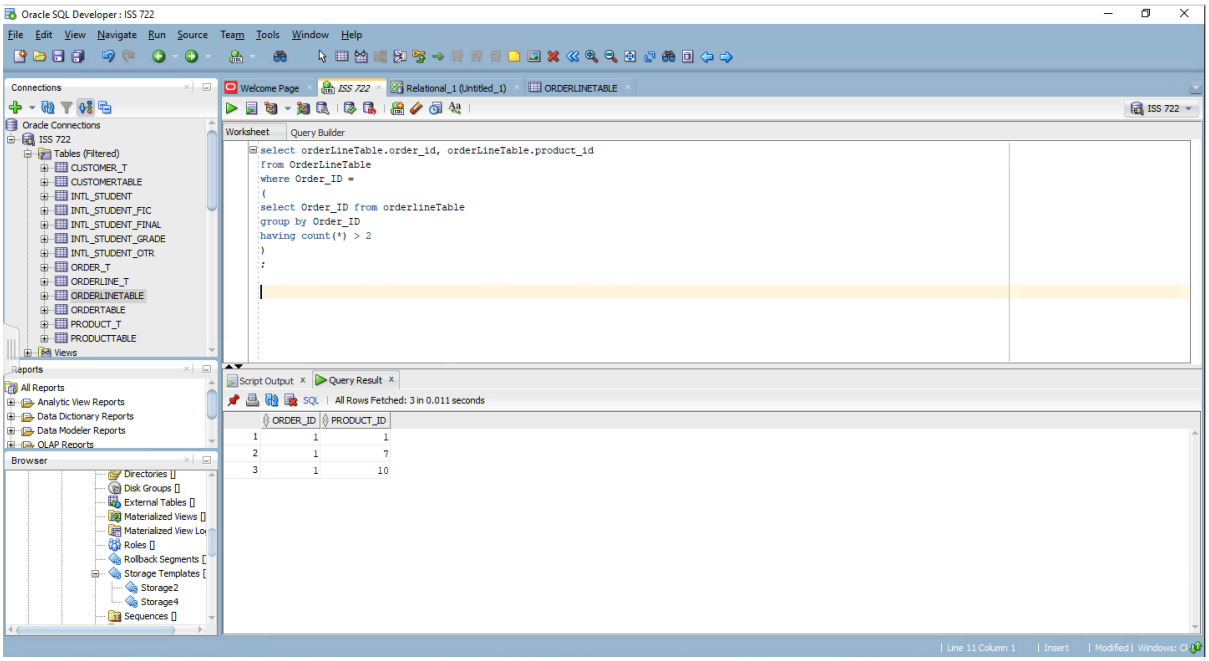
c. List all orders of a particular customer

select C.Name, O.order_id
from customerTable C, OrderTable O
where C.Customer_ID = O.customer_id and C.Customer_ID = 8;



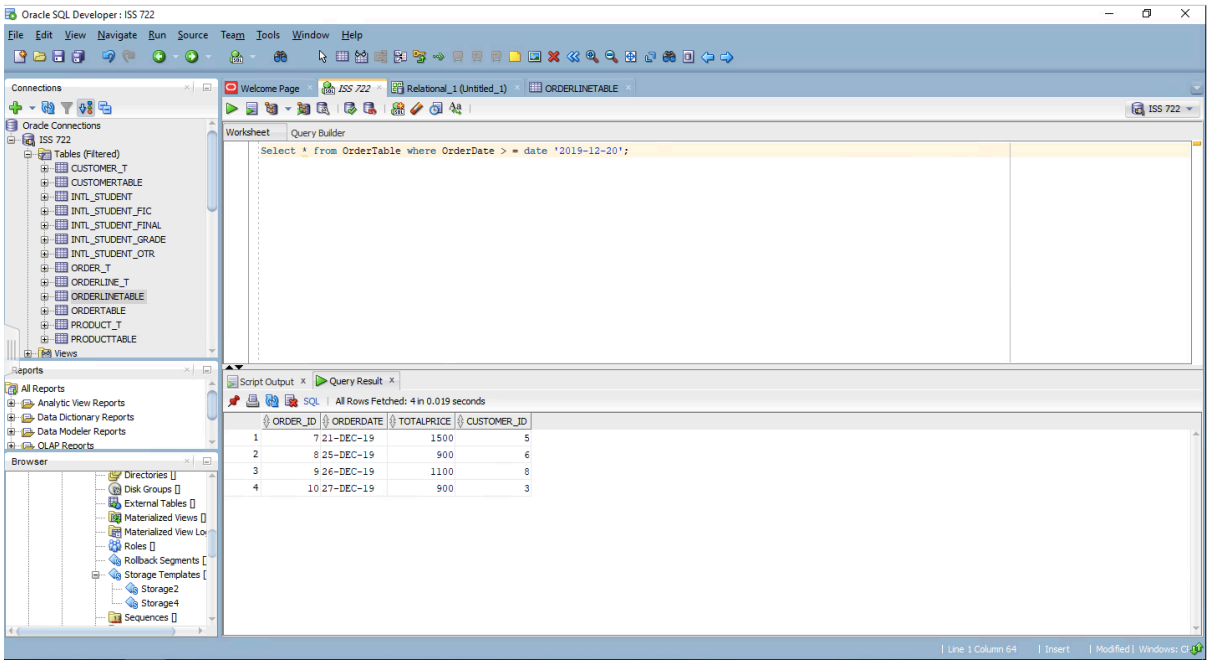
d. List each order with at least 3 different items

```
select orderLineTable.order_id, orderLineTable.product_id
from OrderLineTable
where Order_ID =
(
select Order_ID from orderlineTable
group by Order_ID
having count(*) > 2
)
;
```



e. List all orders that have been ordered after a specific date of your choice

Select * from OrderTable where OrderDate > = date '2019-12-20';



f. List the customer name and a total number of orders by that customer

select name, count(*) as Count from customerTable c, orderTable o where c.customer_id = o.customer_id group by name;