```
create table abc(
  pid integer Primary key
)
create type Nameobject AS OBJECT (
  fname VARCHAR(20),
  Iname VARCHAR(20)
);
create type phonearraylist AS VARRAY(4) OF VARCHAR(15);
// Create Structured Type for Publisher
CREATE TYPE Publisher_Type AS OBJECT (
pub_id VARCHAR2(10),
pub_name VARCHAR2(30),
branch VARCHAR2(30)
);
// Create VARRAY Type for Author IDs
CREATE TYPE Author_Varray AS VARRAY(10) OF VARCHAR2(10);
-- Create Nested Table Type for Keywords
CREATE TYPE Keywords_Table AS TABLE OF VARCHAR2(100);
-- Create Nested Table Type for Phone Numbers in Customer Table
CREATE TYPE Phone_Table AS TABLE OF VARCHAR2(15);
-- Create Table Author
CREATE TABLE Author (
author_id VARCHAR2(10) PRIMARY KEY,
name Nameobject,
phone_no phonearraylist
);
```

```
-- Create Table Book
CREATE TABLE Book (
ISBN NUMBER PRIMARY KEY,
title VARCHAR2(30),
author_id Author_Varray,
category VARCHAR2(20),
publisher Publisher_Type,
keywords Keywords_Table,
price NUMBER(10, 2)
) NESTED TABLE keywords STORE AS keywords_store_table;
-- Create Table Customer
CREATE TABLE Customer (
customer_id VARCHAR2(10) PRIMARY KEY,
name Nameobject,
phone Phone_Table
) NESTED TABLE phone STORE AS phone_store_table;
-- Create Table Book_Sale
CREATE TABLE Book_Sale (
sale_id VARCHAR2(10) PRIMARY KEY,
customer_id VARCHAR2(10),
ISBN NUMBER,
FOREIGN KEY (customer_id) REFERENCES Customer(customer_id),
FOREIGN KEY (ISBN) REFERENCES Book(ISBN)
);
--Now, inserting Sampe data into
-- Insert data into Author
INSERT INTO Author VALUES (
'A001',
```

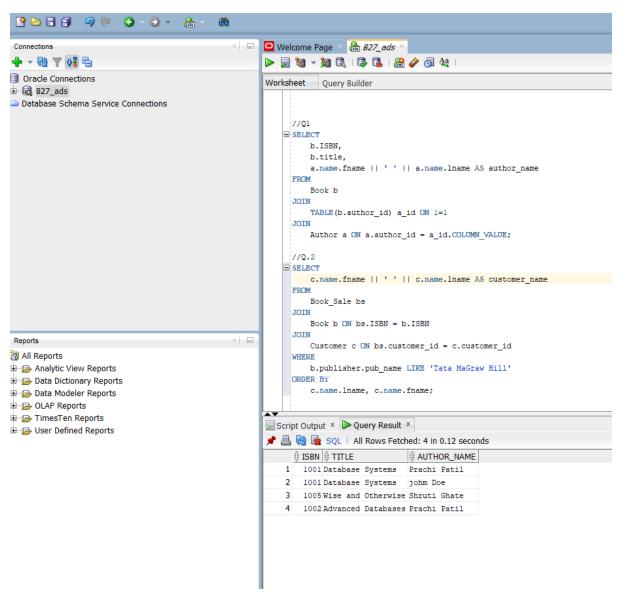
```
Nameobject('Prachi', 'Patil'),
phonearraylist('1234567890', '0987654321')
);
INSERT INTO Author VALUES (
'A003',
Nameobject('Komal', 'Jadhav'),
phonearraylist('1234567890', '9876543210')
);
INSERT INTO Author VALUES (
'A005',
Nameobject('Shruti', 'Ghate'),
phonearraylist('0123456789', '9876543210')
);
INSERT INTO Author VALUES (
'A002',
Nameobject('johm', 'Doe'),
phonearraylist('1234509876', '0987612345')
);
INSERT INTO Author VALUES (
'A006',
Nameobject('Prachi', 'Patil'),
phonearraylist('1234509876', '0987612345')
);
-- Insert data into Book
INSERT INTO Book VALUES (
1001,
'Database Systems',
Author_Varray('A001', 'A002'),
'Education',
```

```
Publisher_Type('P001', 'Tata MaGraw Hill', 'India'),
Keywords_Table('SQL', 'NoSQL'),
499.99
);
INSERT INTO Book VALUES (
1004,
'The Great Gatsby',
Author_Varray('A004'),
'Literature',
Publisher_Type('P004', 'Penguin Random House', 'US'),
Keywords_Table('Novel', 'American Literature', 'Jazz Age'),
299.99
);
INSERT INTO Book VALUES (
1005,
'Wise and Otherwise',
Author_Varray('A005'),
'Literature',
Publisher_Type('P005', 'HarperCollins', 'UK'),
Keywords_Table('Novel', 'Romance', 'Historical Fiction'),
349.99
);
INSERT INTO Book VALUES (
1002,
'Advanced Databases',
Author_Varray('A001'),
'Technology',
Publisher_Type('P002', 'O''Reilly Media', 'US'),
Keywords_Table('Database', 'Advanced'),
599.99
);
```

```
-- Insert data into Customer
INSERT INTO Customer VALUES (
'C002',
Nameobject('Bob', 'Builder'),
Phone_Table('1234765432')
);
INSERT INTO Customer VALUES (
'C001',
Nameobject('Alice', 'Wonderland'),
Phone_Table('1234987654')
);
INSERT INTO Customer VALUES (
'C003',
Nameobject('Sherlock', 'Holmes'),
Phone_Table('1234567890')
);
INSERT INTO Customer VALUES (
'C004',
Nameobject('Dr. Watson', 'Watson'),
Phone_Table('0123456789')
);
-- Insert data into Book_Sale
INSERT INTO Book_Sale VALUES (
'S001',
'C001',
1001
);
```

```
INSERT INTO Book_Sale VALUES (
'S002',
'C002',
1002
);
INSERT INTO Book_Sale VALUES (
'S004',
'C003',
1004
);
INSERT INTO Book_Sale VALUES (
'S005',
'C004',
1005
);
```

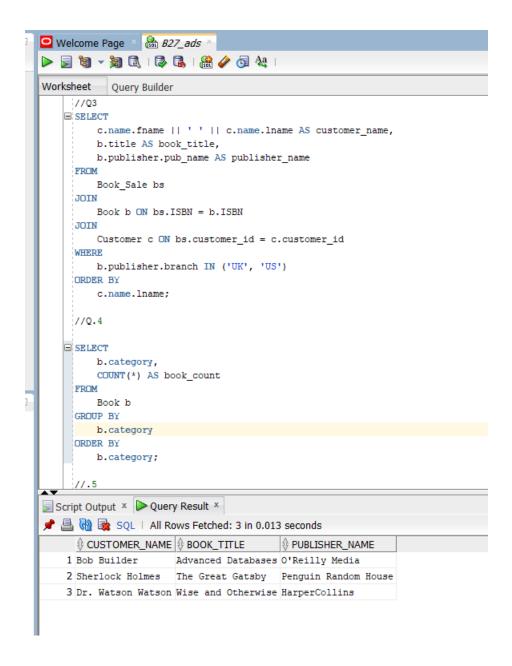
Q.1 List all titles in "book" and include ISBN, author name (as combined from author.fname and author.lname).



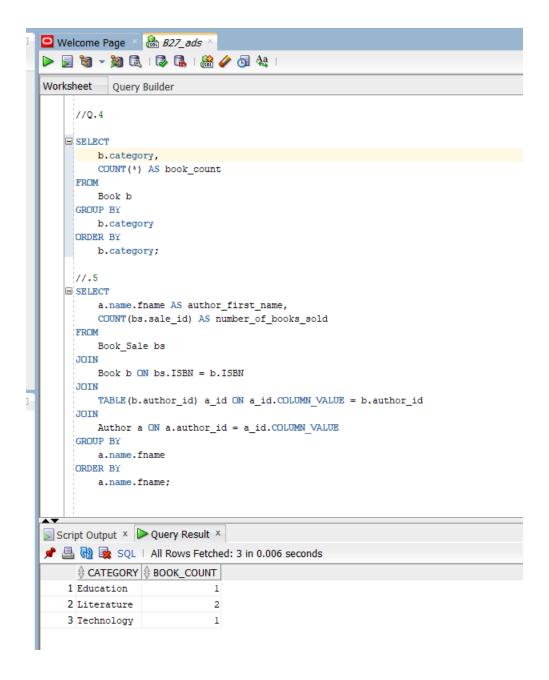
Q.2 List all customers who have purchased books published with 'Tata MaGraw Hill'



Q.3 List customers (as combined from customer.fname and customer.lname) who have purchased books published in the UK or the US, as well as the title of the book they purchased and the name of its publisher and order by last name of customer.



Q.4 List the different (distinct) categories and how many books belong to each category, order alphabetically by category.



Q.5 List the number of books sold that have been written by each author and group by author's first name.

