

Lab Task # 01 (Schema Definition):

i)

```
CREATE TABLE account (  
  account_no CHAR(5),  
  balance NUMBER NOT NULL,  
  CONSTRAINT ac_pk PRIMARY KEY(account_no),  
  CONSTRAINT bl_pk CHECK(balance > 0)  
);
```

Script Output x

Task completed in 0.067 seconds

Table ACCOUNT created.

Output:

Name	Null?	Type
ACCOUNT_NO	NOT NULL	CHAR(5)
BALANCE	NOT NULL	NUMBER

ii)

```
CREATE TABLE customer(  
  customer_no CHAR(5),  
  customer_name VARCHAR2(20) NOT NULL,  
  customer_city VARCHAR2(10),  
  CONSTRAINT cus_pk PRIMARY KEY(customer_no)  
);
```

Script Output x

Task completed in 0.02 seconds

Table CUSTOMER created.

Output:

Name	Null?	Type
-----	-----	-----
CUSTOMER_NO	NOT NULL	CHAR(5)
CUSTOMER_NAME	NOT NULL	VARCHAR2(20)
CUSTOMER_CITY		VARCHAR2(10)

iii)

```
CREATE TABLE depositor(  
  account_no CHAR(5),  
  customer_no CHAR(5),  
  CONSTRAINT dep_pk PRIMARY KEY(account_no,customer_no)  
);
```

Script Output x

Task completed in 0.036 seconds

Table DEPOSITOR created.

Output:

Name	Null?	Type
-----	-----	-----
ACCOUNT_NO	NOT NULL	CHAR(5)
CUSTOMER_NO	NOT NULL	CHAR(5)

Lab Task # 02 (Schema Modification):

i)

```
ALTER TABLE customer
ADD date_of_birth DATE;
```

Script Output x

Task completed in 0.04 seconds

Table CUSTOMER altered.

Output:

Name	Null?	Type
-----	-----	-----
CUSTOMER_NO	NOT NULL	CHAR(5)
CUSTOMER_NAME	NOT NULL	VARCHAR2(20)
CUSTOMER_CITY		VARCHAR2(10)
DATE_OF_BIRTH		DATE

ii)

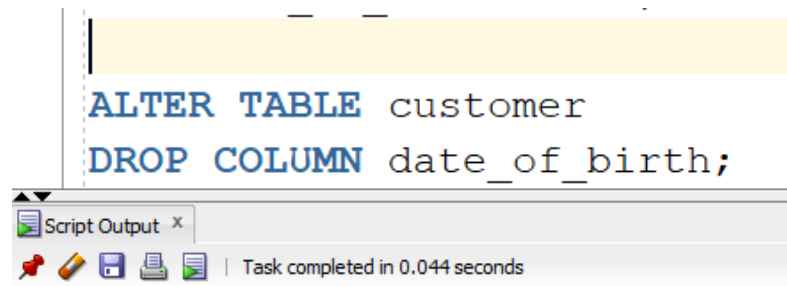


Table CUSTOMER altered.

Output:

Name	Null?	Type
-----	-----	-----
CUSTOMER_NO	NOT NULL	CHAR(5)
CUSTOMER_NAME	NOT NULL	VARCHAR2(20)
CUSTOMER_CITY		VARCHAR2(10)

iii)

```
ALTER TABLE depositor RENAME COLUMN account_no TO a_no;  
ALTER TABLE depositor RENAME COLUMN customer_no TO c_no;
```

Script Output x
Task completed in 0.061 seconds

Table DEPOSITOR altered.

Table DEPOSITOR altered.

Output:

Name	Null?	Type
A_NO	NOT NULL	CHAR(5)
C_NO	NOT NULL	CHAR(5)

iv)

```
ALTER TABLE depositor ADD CONSTRAINT depositor_fk1  
FOREIGN KEY(a_no) REFERENCES account(account_no);  
  
ALTER TABLE depositor ADD CONSTRAINT depositor_fk2  
FOREIGN KEY(c_no) REFERENCES customer(customer_no);
```

Script Output x
Task completed in 0.034 seconds

Table DEPOSITOR altered.

Table DEPOSITOR altered.

Lab Task # 03 (Inserting Records into Tables):

```
-- Task 3 |
-- insert account
INSERT INTO account VALUES ('A-101',12000);
INSERT INTO account VALUES ('A-102',6000);
INSERT INTO account VALUES ('A-103',2500);

-- insert customer
INSERT INTO customer VALUES ('C-101','Alice','Dhaka');
INSERT INTO customer VALUES ('C-102','Annie','Dhaka');
INSERT INTO customer VALUES ('C-103','Bob','Chittagong');
INSERT INTO customer VALUES ('C-104','Charlie','Khulna');

-- insert depositor
INSERT INTO depositor VALUES ('A-101','C-101');
INSERT INTO depositor VALUES ('A-103','C-102');
INSERT INTO depositor VALUES ('A-103','C-104');
INSERT INTO depositor VALUES ('A-102','C-103');
```

Script Output x
Task completed in 0.046 seconds

1 row inserted.

1 row inserted.

1 row inserted.

Output:

	ACCOUNT_NO	BALANCE
1	A-101	12000
2	A-102	6000
3	A-103	2500

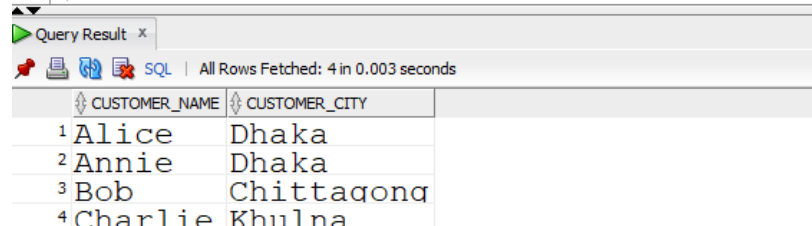
	CUSTOMER_NO	CUSTOMER_NAME	CUSTOMER_CITY
1	C-101	Alice	Dhaka
2	C-102	Annie	Dhaka
3	C-103	Bob	Chittagong
4	C-104	Charlie	Khulna

	A_NO	C_NO
1	A-101	C-101
2	A-102	C-103
3	A-103	C-102
4	A-103	C-104

Lab Task # 04 (Queries):

i)

```
--i|  
  
SELECT customer_name, customer_city  
FROM customer;
```

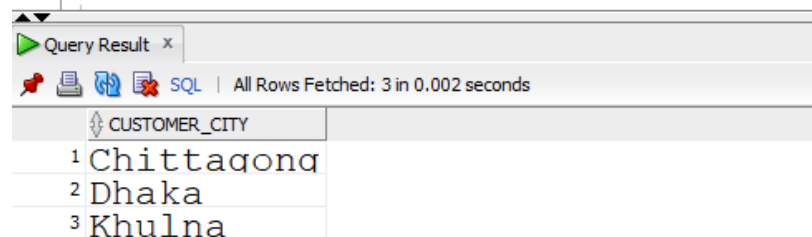


The screenshot shows a SQL query result window titled "Query Result x". It displays the results of the query "SELECT customer_name, customer_city FROM customer;". The window indicates that all 4 rows were fetched in 0.003 seconds. The results are shown in a table with two columns: CUSTOMER_NAME and CUSTOMER_CITY.

	CUSTOMER_NAME	CUSTOMER_CITY
1	Alice	Dhaka
2	Annie	Dhaka
3	Bob	Chittagong
4	Charlie	Khulna

ii)

```
--ii|  
  
SELECT DISTINCT customer_city  
FROM customer;
```

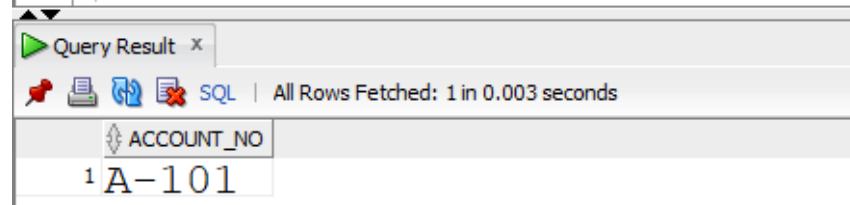


The screenshot shows a SQL query result window titled "Query Result x". It displays the results of the query "SELECT DISTINCT customer_city FROM customer;". The window indicates that all 3 rows were fetched in 0.002 seconds. The results are shown in a table with one column: CUSTOMER_CITY.

	CUSTOMER_CITY
1	Chittagong
2	Dhaka
3	Khulna

iii)

```
--iii|  
  
SELECT account_no  
FROM account  
WHERE balance > 7000;
```



The screenshot shows a SQL query result window titled "Query Result x". It displays the results of the query "SELECT account_no FROM account WHERE balance > 7000;". The window indicates that all 1 row was fetched in 0.003 seconds. The results are shown in a table with one column: ACCOUNT_NO.

	ACCOUNT_NO
1	A-101

iv)

```
--iv|
SELECT customer_no, customer_name
FROM customer
WHERE customer_city = 'Khulna';
```

Query Result x	
All Rows Fetched: 1 in 0.002 seconds	
CUSTOMER_NO	CUSTOMER_NAME
1 C-104	Charlie

v)

```
--v|
SELECT customer_no, customer_name
FROM customer
WHERE customer_city != 'Dhaka';
```

Query Result x	
All Rows Fetched: 2 in 0.001 seconds	
CUSTOMER_NO	CUSTOMER_NAME
1 C-103	Bob
2 C-104	Charlie

vi)

```
--vi|
SELECT Customer_name, Customer_city
FROM account, depositor, customer
WHERE depositor.a_no=account.account_no
AND depositor.c_no=customer.Customer_no
AND BALANCE > 7000
;
```

Query Result x	
All Rows Fetched: 1 in 0.005 seconds	
CUSTOMER_NAME	CUSTOMER_CITY
1 Alice	Dhaka

vii)

```
--vii
```

```
SELECT Customer_name, Customer_city  
FROM Customer JOIN Depositor  
ON depositor.c_no=customer.Customer_no  
JOIN Account ON depositor.a_no=account.account_no  
WHERE balance > 7000 AND customer_city != 'Khulna';
```

Query Result	Query Result 1
All Rows Fetched: 1 in 0.002 seconds	
CUSTOMER_NAME	CUSTOMER_CITY
1 Alice	Dhaka

viii)

```
--viii
```

```
SELECT Account_no,Balance FROM Account
JOIN Depositor ON depositor.a_no=account.account_no
JOIN Customer ON depositor.c_no=customer.Customer_no
WHERE Customer_no='C-102';
```

Query Result x

All Rows Fetched: 1 in 0.002 seconds

ACCOUNT_NO	BALANCE
1 A-103	2500

ix)

```
--ix
```

```
SELECT Account_no, Balance FROM Account  
JOIN Depositor ON depositor.a_no=account.account_no  
JOIN Customer ON depositor.c_no=customer.Customer_no  
WHERE Customer_city IN('Dhaka', 'Khulna');
```

Query Result x

SQL | All Rows Fetched: 3 in 0.002 seconds

	ACCOUNT_NO	BALANCE
1	A-101	12000
2	A-103	2500
3	A-103	2500

x)

