1. **Pseudo code**
2. **Pseudo Code to Check Prime Number**

BEGIN

DECLARE N as NUMBER

Prompt Number

Store IN N

IF N is NOT NUMBER OR N < 0

THEN

PRINT (Enter a valid Natural Number)

EXIT

END IF

DECLARE I=2

FOR I = 2 to N/2

IF N mod I = 0

THEN

PRINT (Number N is not Prime Number)

EXIT

ELSE

I = I + 1

END IF

END FOR

PRINT (Number N is a Prime Number)

END

1. **Pseudo Code for transferring amount from one bank to another**

BEGIN

DECLARE ACC1, ACC2

GET ACCOUNT details from which amount need to be transferred.

STORE IN ACC1

GET ACCOUNT details in which amount need to be transferred.

STORE IN ACC2

IF ACC1 IS INVALID AND ACC1 IS ACTIVE

THEN

PRINT (INVALID/INACTIVE FROM ACCOUNT)

EXIT

ELSE

IF ACC2 IS INVALID AND ACC2 IS ACTIVE

THEN

PRINT (INVALID/INACTIVE TO ACCOUNT)

EXIT

END IF

END IF

DECLARE AMOUNT

GET Amount needs to be transferred

STORE IN AMOUNT

IF (AMOUNT IS NOT NUMBER)

THEN

IF ERROR in Converting AMOUNT INTO NUMBER

THEN

PRINT (Enter Amount in number only)

EXIT

ELSE

CONVERT AMOUNT INTO NUMBER

END IF

END IF

IF CHECKBALANCE(ACC1) > AMOUNT

THEN

BALANCE(ACC1) = BALANCE(ACC1) - AMOUNT

BALANCE(ACC2) = BALANCE(ACC2) + AMOUNT

PRINT (TRANSFER SUCCESSFULLY COMPLETED)

EXIT

ELSE

PRINT (INSUFFICIENT BALANCE TO TRANSFER)

EXIT

END IF

END

1. **SQL**
2. **Write SQL Query to create following tables [DO NOT CREATE PRIMARY / FOREIGN KEYS ]**

**Customer: CustomerId, Fullname, address, city, pan number**

**Account: accountNo, accType, balance, customerId**

CREATE OR REPLACE TABLE AS CUSTOMER (

CustomerID as VARCHAR2(10),

FULLNAME as VARCHAR2(30),

ADDRESS as VARCHAR2(50),

CITY as VARCHAR2(20),

PAN\_NUMBER as VARCHAR2(10)

);

CREATE OR REPLACE TABLE AS ACCOUNT (

AccountNo as VARCHAR2(10),

AccType as VARCHAR2(10),

Balance as Number(10,2),

CustomerID as VARCHAR2(10)

);

1. **Write SQL to insert following records in Customer & Account tables:**

INSERT INTO CUSTOMER VALUES (‘C1002’,’Rajiv Bhatia’,’Xyz Path, Chandni chowk’,’Delhi’,’AXNSS 1234 A’);

INSERT INTO CUSTOMER VALUES (‘C1003’,’Alia Bhatt’,’ Khar’,’Mumbai’,’SZAXS 5656 B’);

INSERT INTO CUSTOMER VALUES (‘C1004’,’Vijay Deol’,’Bandra’,’Mumbai’,’APOI 5675 A’);

INSERT INTO CUSTOMER VALUES (‘C1005’,’Abhay Deol’,’Bandra’,’Mumbai’,’AUIO 7676 K’);

INSERT INTO ACCOUNT VALUES (‘SB122666’,’Savings’,67000,’C1002’);

INSERT INTO ACCOUNT VALUES (‘CB565556’,’Current’,786928.98,’C1002’);

INSERT INTO ACCOUNT VALUES (‘SB876565’,’Savings’,547899.90,’C1004’);

INSERT INTO ACCOUNT VALUES (‘SB565722’,’Savings’,67600,’C1003’);

INSERT INTO ACCOUNT VALUES (‘SB757676’,’Savings’,66197.88,’C1003’);

INSERT INTO ACCOUNT VALUES (‘SB166778’,’Current’,16000,’C1008’);

1. **Write a Left Join to get all customers and accounts. Join should display all customers [Even those who DO NOT have any account].**

Select

CUSTOMER.CUSTOMERID,

FULLNAME,

ACCOUNTNO,

ACCTYPE,

BALANCE  
from

CUSTOMER, ACCOUNT

WHERE

CUSTOMER.CUSTOMERID = ACCOUNT.CUSTOMERID(+)

1. **UML**
2. **For RDBMS Question #1, Create Class Diagram for Both tables.**

|  |
| --- |
| **Customer** |
| **Attributes**: |
| CustomerId |
| Full Name |
| Address |
| City |
| Pan number |
|  |
| **Methods**: |
| UpdateAddress() |
| UpdateName() |
| … |
|  |

|  |
| --- |
| **Account** |
| **Attributes**: |
| AccountNo |
| Account Type |
| Balance |
| CustomerID |
|  |
| **Methods**: |
| UpdateBalance() |
| CheckBalance() |
| CheckAccType() |
| … |

1. **Create an Activity Diagram to explain fund transfer**

Invalid Acc2

yeses

Invalid Acc1

yeses

Insufficient Balance

yeses

Yes

yeses

Yes

yeses

Validate Acc2

Yes

yeses

Get To Acc Details

Get Amount to transfer

If transfer amount less than from account balance

Reduce acc1 balance by amount

Increase acc2 balance by amount

END

Validate Acc1

Get From Acc Details

Start