Assessment:

Pseudo code 10 Marks

Q1: Write a Pseudo code for verify if number entered is prime number.

BEGIN

DECLARE is\_valid\_input, is\_prime as BOOLEAN

DECLARE prime\_number, n, i as NUMBER

GET any number from user and STORE it in prime\_number

SET is\_valid\_input as TRUE

SET is\_prime as TRUE

IF prime\_number is blank or length of prime\_number is equal to 0 then

DISPLAY “Please enter a valid number”

SET Is\_valid\_input as FALSE

END IF

IF prime\_number is less than or equal to 0 then

DISPLAY “Please enter a number greater than 0

SET is\_valid\_input as FALSE

END IF

SET n as length of prime\_number

IF is\_valid\_input is equal to TRUE then

For i equals to 2 to i less than n/2 increment by 1

If remainder of prime\_number divided by i is equal to 0 then

SET is\_prime as FALSE

BREAK

END IF

END FOR

IF prime\_number is equal to 1 then

DISPLAY prime\_number + “ is a prime\_number”

END IF

IF is\_prime is equal to TRUE then

DISPLAY prime\_number + “ is a prime\_number”

ELSE

DISPLAY prime\_number + “ is not a prime\_number”

END IF

END IF

END

Q2: Write a Pseudo code for transferring amount from one account to another. [Should validate whether both accounts exists]

BEGIN

DECLARE amount, fromAccount, toAccount, fromAccountBalance as NUMBER

DECLARE is\_valid\_input as BOOLEAN

GET amount, fromAccount, toAccount from user and STORE THEM

SET is\_valid\_input as TRUE

IF amount is blank or length of amount is equal to 0 then

DISPLAY “Amount cannot be blank”

SET Is\_valid\_input as FALSE

END IF

IF amount is less than 0 then

DISPLAY “Amount cannot be less than 0”

SET Is\_valid\_input as FALSE

END IF

IF fromAccount is blank or length of fromAccount is equal to 0 then

DISPLAY “Account from where funds need to be transferred cannot be blank”

SET Is\_valid\_input as FALSE

END IF

IF toAccount is blank or length of toAccount is equal to 0 then

DISPLAY “Account to which funds need to be transferred cannot be blank”

SET Is\_valid\_input as FALSE

END IF

IF fromAccount does not exist in database then

DISPLAY “Account from which funds need to be transferred does not exist”

SET Is\_valid\_input as FALSE

END IF

IF toAccount does not exist in database then

DISPLAY “Account to which funds need to be transferred does not exist”

SET Is\_valid\_input as FALSE

END IF

IF fromAccount or toAccount are not Active in database then

DISPLAY “Account need to be Active for fund transfer”

SET Is\_valid\_input as FALSE

END IF

GET balance of fromAccount from database and STORE in fromAccountBalance

IF amount is greater than fromAccountBalance then

DISPLAY “Insufficient amount in ” + fromAccount + “to transfer”

SET Is\_valid\_input as FALSE

END IF

IF is\_valid\_input is equal to TRUE then

SUBTRACT amount from fromAccount

ADD amount to toAccount

DISPLAY amount + “successfully transferred from” + fromAccount + “ to “ + toAccount

END IF

END

RDBMS: 30 Marks

Q1. 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 TABLE Customer

(

CustomerId VARCHAR2(10),

Fullname VARCHAR2(30),

Address VARCHAR2(255),

City VARCHAR2(30),

PanNo VARCHAR2(12)

);

CREATE TABLE ACCOUNT

(

AccountNo VARCHAR2(13),

AccType VARCHAR2(20),

Balance NUMBER(15,2),

CustomerId VARCHAR2(10)

);

Q2. Write SQL to insert following records in Customer & Account tables:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C1002 | Rajiv Bhatia | Xyz Path, Chandni chowk | Delhi | AXNSS 1234 A |
| C1003 | Alia Bhatt | Khar | Mumbai | SZAXS 5656 B |
| C1004 | Vijay Deol | Bandra | Mumbai | APOI 5675 A |
| C1005 | Ajay Deol | Bandra | Mumbai | AUIO 7676 K |

|  |  |  |  |
| --- | --- | --- | --- |
| SB122666 | Savings | 67000 | C1002 |
| CB565556 | Current | 786928.98 | C1002 |
| SB876565 | Savings | 547899.90 | C1004 |
| SB565722 | Savings | 67600 | C1003 |
| SB757676 | Savings | 66197.88 | C1003 |
| SB166778 | Current | 16000 | C1008 |

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','Ajay 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');

commit;

Q3. Write a Left Join to get all customers and accounts. Join should display all customers [Even those who DO NOT have any account].

SELECT CustomerId,Fullname,Address,City,PanNo,AccountNo,AccType,Balance

FROM Customer left outer join Account USING (CustomerId);

UML 10 Marks

Q1. For RDBMS Question #1, Create Class Diagram for Both tables.

Account

Customer

AccountNo

AccType

Balance

customerId

customerId

Fullname

Address

City

PanNo

**\***

**\***

Q2. Create an Activity Diagram to explain fund transfer.

HINT: Fund transfer is possible from Any account type to any other account type.

Must validate existence of both account

Must validate account balance before transfer

Must update balance after transaction completes.

Display Message “Account invalid”

Display Message “Account invalid”

Display message “Insufficient balance for fund transfer”

No

Display message “Fund transfer successful

Exists

Add amount to toAccount

Subtract amount from fromAccount

Yes

Check if balance in fromAccountis greater than amount to be transferred

Not Exists

Not Exists

Exists

Check if fromAccount exists

Check if toAccount exists

Get amount, fromaccount and toAccount for fund transfer