**DATA6222\_Exam-2023**

--QUESTION 1

CREATE DATABASE ST10296818\_DATA6222\_ExamQ1

USE ST10296818\_DATA6222\_ExamQ1

CREATE TABLE CUSTOMER(

CUSTOMER\_ID VARCHAR(10)NOT NULL PRIMARY KEY,

CUSTOMER\_FULLNAME VARCHAR(50) NOT NULL,

CUSTOMER\_CELL VARCHAR(10) NOT NULL);

CREATE TABLE HAIRSTYLIST(

HAIRSTYLIST\_ID VARCHAR(6)NOT NULL PRIMARY KEY,

HAIRSTYLIST\_NAME VARCHAR(50) NOT NULL);

CREATE TABLE BOOKINGS(

CUSTOMER\_ID VARCHAR(10) NOT NULL FOREIGN KEY REFERENCES CUSTOMER(CUSTOMER\_ID),

HAIRSTYLIST\_ID VARCHAR(6) NOT NULL FOREIGN KEY REFERENCES HAIRSTYLIST(HAIRSTYLIST\_ID),

BOOKING\_DATE DATE NOT NULL,

BOOKING\_TIME TIME NOT NULL,

BOOKING\_MINUTES SMALLINT NOT NULL

PRIMARY KEY(CUSTOMER\_ID, HAIRSTYLIST\_ID, BOOKING\_DATE));

INSERT INTO CUSTOMER VALUES

('123456','Neo Petlele','0768978657'),

('246810','Derek Moore', '0831595753'),

('369121','Pedro Ntaba', '0823578963'),

('654321','Thabo Joe', '0711346798'),

('987654','Dominique Woolridge', '0847139852');

INSERT INTO HAIRSTYLIST VALUES

('ID0001','Thuli'),

('ID0002','Yolanda'),

('ID0003','Sally S'),

('ID0004','Francine'),

('ID0005','Tandie');

INSERT INTO BOOKINGS VALUES

('123456','ID0001','2023-10-30','9:00',120),

('246810','ID0005','2023-10-29','14:00',90),

('246810','ID0004','2023-10-30','13:00',120),

('654321','ID0002','2023-10-28','8:00',240),

('987654','ID0001','2023-10-29','9:00',180),

('123456','ID0002','2023-10-20','12:00',60),

('246810','ID0004','2023-10-29','9:00',90);

--1.1

GO

CREATE VIEW ExtendedBookings

AS

SELECT CUSTOMER.CUSTOMER\_ID, HAIRSTYLIST.HAIRSTYLIST\_ID, BOOKING\_DATE, BOOKING\_TIME, BOOKING\_MINUTES

FROM CUSTOMER, HAIRSTYLIST, BOOKINGS

WHERE CUSTOMER.CUSTOMER\_ID = BOOKINGS.CUSTOMER\_ID AND HAIRSTYLIST.HAIRSTYLIST\_ID = BOOKINGS.HAIRSTYLIST\_ID

AND BOOKINGS.BOOKING\_MINUTES > 120

--1.2

GO

CREATE PROC FindBookings

AS

SELECT HAIRSTYLIST.HAIRSTYLIST\_NAME, CUSTOMER\_FULLNAME, CUSTOMER\_CELL, BOOKING\_DATE, BOOKING\_TIME, BOOKING\_MINUTES

FROM CUSTOMER

LEFT JOIN BOOKINGS ON CUSTOMER.CUSTOMER\_ID = BOOKINGS.CUSTOMER\_ID

LEFT JOIN HAIRSTYLIST ON BOOKINGS.HAIRSTYLIST\_ID = HAIRSTYLIST.HAIRSTYLIST\_ID

WHERE BOOKINGS.HAIRSTYLIST\_ID = 'ID0002'

EXEC FindBookings

--1.3 NOT DISPLAYING CORRECTLY

SELECT DISTINCT HAIRSTYLIST.HAIRSTYLIST\_ID, HAIRSTYLIST.HAIRSTYLIST\_NAME,

CASE

WHEN BOOKINGS.BOOKING\_DATE IS NULL

THEN 'No Bookings made'

ELSE 'Bookings made'

END AS BOOKINGS\_STATUS

FROM HAIRSTYLIST

LEFT JOIN BOOKINGS ON HAIRSTYLIST.HAIRSTYLIST\_ID = BOOKINGS.CUSTOMER\_ID

GROUP BY HAIRSTYLIST.HAIRSTYLIST\_ID, HAIRSTYLIST.HAIRSTYLIST\_NAME, BOOKING\_DATE;

--1.4

SELECT HAIRSTYLIST.HAIRSTYLIST\_NAME, SUM(BOOKINGS.BOOKING\_MINUTES) AS TOTAL\_MINUTES\_BOOKED

FROM HAIRSTYLIST, BOOKINGS

WHERE HAIRSTYLIST.HAIRSTYLIST\_ID = BOOKINGS.HAIRSTYLIST\_ID

GROUP BY HAIRSTYLIST.HAIRSTYLIST\_NAME

ORDER BY TOTAL\_MINUTES\_BOOKED DESC;

--QUESTION 2

--2.1

CREATE DATABASE ST10296818\_DATA6222\_ExamQ2

USE ST10296818\_DATA6222\_ExamQ2;

CREATE TABLE BOOK(BOOK\_ID VARCHAR(5) NOT NULL PRIMARY KEY, BOOK\_TITLE VARCHAR(40) NOT NULL, AUTHOR VARCHAR(40) NOT NULL);

CREATE TABLE LIBRARY(LIBRARY\_ID VARCHAR(5) NOT NULL PRIMARY KEY, LIBRARY\_NAME VARCHAR(20) NOT NULL, ADDRESS VARCHAR(50) NOT NULL, CITY VARCHAR(20) NOT NULL);

CREATE TABLE AVAILABILITY(BOOK\_ID VARCHAR(5) NOT NULL, LIBRARY\_ID VARCHAR(5) NOT NULL, QUANTITY SMALLINT NOT NULL

PRIMARY KEY(BOOK\_ID, LIBRARY\_ID),

FOREIGN KEY (BOOK\_ID) REFERENCES BOOK(BOOK\_ID),

FOREIGN KEY (LIBRARY\_ID) REFERENCES LIBRARY(LIBRARY\_ID));

--QUESTION 2.2

INSERT INTO BOOK

VALUES ('B001', 'The Joker and the Queen', 'Todd Phillips'),

('B002', 'Booksmart', 'Olivia Wilde'),

('B003', 'Gemini MAn', 'Ang Lee'),

('B004', 'Atlantics', 'Mati Diop'),

('B005', 'The Farewell', 'Lulu Wang');

INSERT INTO LIBRARY

VALUES('L001', 'JHB Library', '167 Pert Road', 'Johannesburg'),

('L002', 'Wakmer Library', '5 Second Avenue', 'Gqeberha'),

('L003', 'Bertha Mkhize Lib', '33 Bertha Mkhize Street', 'Durban'),

('L004', 'Bram Fischer Library', '27 Bram Fischer Road', 'Durban'),

('L005', 'Tshwane Library', '210 Du Toit Street', 'Pretoria');

INSERT INTO AVAILABILITY

VALUES('B002', 'L001', 13),

('B002', 'L004', 9),

('B003', 'L005', 8),

('B004', 'L003', 5),

('B004', 'L001', 9);

--2.3

ALTER TABLE AVAILABILITY

ADD BOOKS\_ORDERED SMALLINT;

--2.4

UPDATE AVAILABILITY

SET BOOKS\_ORDERED = 3

WHERE BOOK\_ID = 'B004' AND LIBRARY\_ID = 'L003';

--2.5

SELECT BOOK.BOOK\_TITLE, BOOK.AUTHOR FROM BOOK

LEFT JOIN AVAILABILITY ON BOOK.BOOK\_ID = AVAILABILITY.BOOK\_ID

WHERE AVAILABILITY.QUANTITY IS NULL;

--2.6

SELECT BOOK.BOOK\_TITLE, BOOK.AUTHOR, SUM (AVAILABILITY.QUANTITY) AS TOTAL\_AVAILABLE FROM BOOK

LEFT JOIN AVAILABILITY ON BOOK.BOOK\_ID = AVAILABILITY.BOOK\_ID

GROUP BY BOOK\_TITLE, AUTHOR, QUANTITY

ORDER BY BOOK\_TITLE ASC;

--2.7

SELECT TOP 1 LIBRARY\_NAME, ADDRESS, CITY, BOOK\_TITLE, BOOK.AUTHOR, QUANTITY

FROM BOOK, LIBRARY, AVAILABILITY

WHERE BOOK.BOOK\_ID = AVAILABILITY.BOOK\_ID AND LIBRARY.LIBRARY\_ID = AVAILABILITY.LIBRARY\_ID AND AVAILABILITY.BOOK\_ID = 'B002'

ORDER BY QUANTITY DESC

SELECT \* FROM BOOK;

SELECT \* FROM LIBRARY;

SELECT \* FROM AVAILABILITY;