DATABASE SYSTEMS LAB INTERNAL QUIZ

Nirajit Pramanik 22BAI1347

```
Question 1:
Consider the Sailors-Boats-Reserves DB described in the text.
sailor (sid, sname, rating, age)
boat (bid, bname, color)
reserves (sid, bid, rdate)
Write each of the following queries in SQL
(a) Create the above tables with constraints and insert minimum 5 records into it. Check
Qn. 2 for inserting sid values [6]
(b) Create a sequence and insert sid values (contains only odd numbers) starting from 101
[2]
CREATE TABLE SAILOR_1347(
      SID INT PRIMARY KEY,
      SNAME VARCHAR(20),
      RATING INT,
      AGE INT
);
CREATE TABLE BOAT_1347(
      BID INT PRIMARY KEY,
      BNAME VARCHAR(20),
      COLOR VARCHAR(15)
);
CREATE TABLE RESERVES_1347(
```

```
SID INT,
      BID INT,
      RDATE DATE,
      FOREIGN KEY(SID) REFERENCES SAILOR_1347(SID),
      FOREIGN KEY(BID) REFERENCES BOAT_1347(BID)
);
--part (b)
CREATE SEQUENCE SEQ1
START WITH 99
MINVALUE 99
MAXVALUE 201
INCREMENT BY 2;
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'JOHN', 4, 25);
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'JACOB', 4, 25);
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'STEVE', 2, 29);
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'BOBBY', 3, 32);
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'THOR', 5, 39);
INSERT INTO SAILOR_1347 VALUES(SEQ1.NEXTVAL, 'CHESTER', 4, 41);
INSERT INTO BOAT_1347 VALUES(101, 'MARS', 'BLUE');
INSERT INTO BOAT_1347 VALUES(102, 'STORM TROOPER', 'RED');
INSERT INTO BOAT_1347 VALUES(103, 'MIDSTORM', 'GREEN');
INSERT INTO BOAT_1347 VALUES(104, 'TITANIC', 'BLUE');
INSERT INTO BOAT_1347 VALUES(105, 'WAVECRASHER', 'BLACK');
INSERT INTO RESERVES_1347 VALUES(101, 101, '21/MAR/2024');
INSERT INTO RESERVES_1347 VALUES(103, 103, '22/FEB/2024');
```

//22BAI1347 Nirajit Pramanik

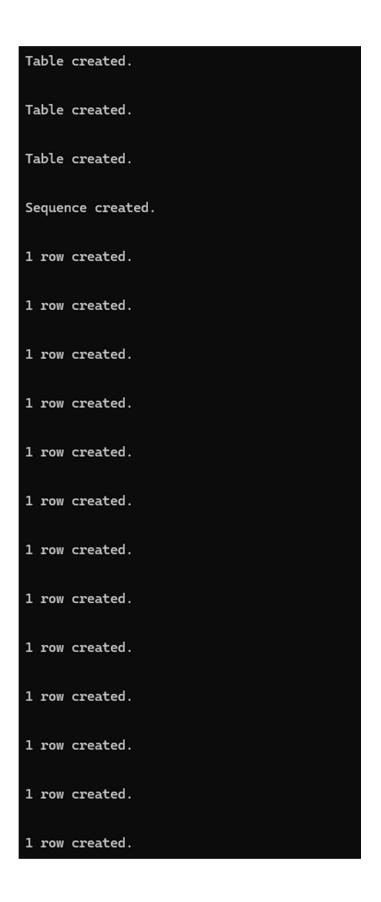
```
INSERT INTO RESERVES_1347 VALUES(105, 104, '15/JAN/2024');
INSERT INTO RESERVES_1347 VALUES(107, 102, '02/APR/2024');
INSERT INTO RESERVES_1347 VALUES(111, 102, '02/JAN/2024');
INSERT INTO RESERVES_1347 VALUES(109, 105, '22/SEP/2024');
INSERT INTO RESERVES_1347 VALUES(107, 105, '22/JAN/2024');
INSERT INTO RESERVES_1347 VALUES(105, 105, '22/MAR/2024');
INSERT INTO RESERVES_1347 VALUES(103, 105, '22/MAY/2024');
INSERT INTO RESERVES_1347 VALUES(101, 105, '22/JUL/2024');
```

--displaying tables

SELECT * FROM SAILOR_1347;

SELECT * FROM BOAT_1347;

SELECT * FROM RESERVES_1347;



STD	CHAME		DATTNO	465			
S1D	SNAME		RATING	AGE			
101	JOHN		4	25			
103	JACOB		4	25			
105	STEVE		2	29			
	BOBBY		3	32			
	THOR		5	39			
111	CHESTER		4	41			
6 rows selected.							
o rows seco	ecceu.						
BID	BNAME		COLOR				
101	MARS		BLUE				
	STORM TROOPER		RED				
103	MIDSTORM		GREEN				
104	TITANIC		BLUE				
105	WAVECRASHER		BLACK				
SID	BID	DDATE					
101	101	21-MAR-24					
103	103	22-FEB-24					
105	104	15-JAN-24					
107		02-APR-24					
111		02-JAN-24					
109		22-SEP-24					
107		22-JAN-24					
105		22-MAR-24					
103 101		22-MAY-24					
191	105	22-JUL-24					
10 rows selected.							

(c) Find all sailor id's of sailors who have a rating of at least 5 or reserved boat 103. [2]

SELECT S.SNAME FROM SAILOR_1347 S

JOIN RESERVES_1347 R ON S.SID = R.SID

WHERE (S.RATING \geq 5) OR (R.BID = 103);



(d) Find the names of sailors who have not reserved a boat whose name contains the string "storm". Order the names in ascending order. [2]

SELECT DISTINCT(S.SNAME) FROM SAILOR_1347 S

JOIN RESERVES_1347 R ON S.SID = R.SID

JOIN BOAT_1347 B ON R.BID = B.BID

WHERE R.BID NOT IN (SELECT BID FROM BOAT_1347 WHERE BNAME LIKE '%STORM%')

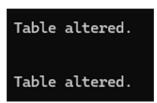
ORDER BY S.SNAME;



(e) Update the sailor table by adding moble_no and check to see that the values only start with "91" [2]

ALTER TABLE SAILOR_1347 ADD MOBILE_NO VARCHAR(11);

ALTER TABLE SAILOR_1347 ADD CONSTRAINT MOB_CONST CHECK (MOBILE_NO LIKE '91%');



(f) Create a sub table for sailor table to view sailor id's of sailors with the lowest rating [2]

CREATE TABLE LOWRATING_1347 AS

(SELECT * FROM SAILOR_1347 WHERE RATING=(SELECT MIN(RATING) FROM SAILOR_1347));

SELECT * FROM LOWRATING_1347;

Table created.								
SID	SNAME	RATING	AGE	MOBILE_NO				
105	STEVE	2	29					

(g) For each boat which was reserved by at least 5 distinct sailors, find the boat id and the average age of sailors who reserved it. [2]

SELECT R.BID, AVG(S.AGE) AS AVERAGE_AGE, COUNT(R.BID) AS SAILORS_COUNT FROM BOAT_1347 B

JOIN RESERVES_1347 R ON B.BID = R.BID

JOIN SAILOR_1347 S ON S.SID = R.SID

GROUP BY R.BID

HAVING COUNT(R.BID) >= 5;



(h) Find the bid reserved by the oldest sailor. [2]

SELECT R.BID FROM BOAT_1347 B

 ${\tt JOIN~RESERVES_1347~R~ON~R.BID=B.BID}$

 $JOIN SAILOR_1347 S ON S.SID = R.SID$

WHERE S.AGE = (SELECT MAX(AGE) FROM SAILOR_1347);

