

1. Get everything in the Sailors table.

SQL : **SELECT \* FROM Sailors;**

	SNAME	SID	RATING	AGE
▶	Marx	23	8	52
	Martin	25	9	51
	Adams	27	8	36
	Carrey	33	10	22
	NULL	NULL	NULL	NULL

2. Get sailor ID, rank & age of all sailors, ordered from highest to lowest rank. Rank is 10 times rating.

SQL : **SELECT SID, RATING \* 10, AGE FROM SAILORS ORDER BY RATING DESC;**

	SID	RATING * 10	AGE
▶	33	100	22
	25	90	51
	23	80	52
	27	80	36

3. Get alphabetical list of sailors with rating less than 10.

SQL : **SELECT SID, RATING \* 10, AGE FROM SAILORS ORDER BY RATING DESC;**

SNAME
Adams
Martin
Marx

4. Find how much deposit money there is in total and how many tuples are in the reserves table.

SQL : **SELECT SUM(DEPOSIT) AS TOTAL, COUNT(DEPOSIT) AS HOWMANY FROM RESERVES;**

TOTAL	HOWMANY
460	7

5. Get all info on boats in Fishhoek but I'm not sure how you spell Fishhoek.

SQL : **SELECT \* FROM BOATS WHERE LOCATION LIKE "\_IS%K";**

BNAME	BID	FEE	LOCATION
SeaPride	108	500	Fish Hoek

6. In what locations are boats kept?

SQL : **SELECT DISTINCT LOCATION FROM BOATS;**

LOCATION
Hout Bay
Fish Hoek

7. Get the names of all Boats that have a fee value recorded in the database.

SQL : **SELECT BNAME FROM BOATS WHERE FEE IS NOT NULL;**

BNAME
Yuppie
Joy
SeaPride
Wayfarer

8. Get ID of all boats that have not been reserved.

SQL : **SELECT BID FROM BOATS WHERE BID IN (SELECT BID FORM RESERVES);**

BID
104
110
NULL

9. Get all reservation info, including all details on the boats being reserved.

SQL : **SELECT \* FROM RESERVES, BOATS WHERE RESERVES.BID = BOATS.BID;**

SID	BID	DAY	DEPOSIT	BNAME	BID	FEE	LOCATION
25	101	2014-08-08	0	Yuppie	101	400	Hout Bay
27	101	2014-08-09	100	Yuppie	101	400	Hout Bay
33	104	2014-09-11	0	Joy	104	200	Hout Bay
23	108	2014-08-08	120	SeaPride	108	500	Fish Hoek
23	109	2014-08-01	120	Wayfarer	109	120	Hout Bay
27	109	2014-08-15	120	Wayfarer	109	120	Hout Bay
33	109	2014-09-04	0	Wayfarer	109	120	Hout Bay

10. For all reservations, get the name of the sailor, along with the day and name of the boat booked.

SQL : **SELECT SNAME, DAY, BNAME FROM SAILORS AS S, RESERVES AS R, BOATS  
AS B WHERE S.SID = R.SID AND R.BID = B.BID;**

SNAME	DAY	BNAME
Marx	2014-08-08	SeaPride
Marx	2014-08-01	Wayfarer
Martin	2014-08-08	Yuppie
Adams	2014-08-09	Yuppie
Adams	2014-08-15	Wayfarer
Carrey	2014-09-11	Joy
Carrey	2014-09-04	Wayfarer

11. Get the average deposit paid for each boat.

SQL : **SELECT BID, AVG(DEPOSIT) FROM RESERVES GROUP BY BID;**

BID	AVG(DEPOSIT)
101	50.0000
104	0.0000
108	120.0000
109	80.0000

12. Get the average deposit paid for each boat that has been booked by more than one person.

SQL : **SELECT BID, AVG(DEPOSIT) FROM RESERVES GROUP BY BID HAVING  
COUNT(DISTINCT SID) > 1;**

BID	AVG(DEPOSIT)
101	50.0000
109	80.0000

13. Get the average firm deposit paid for each boat that has been booked by more than one person, in increasing order of amount. A firm deposit is one which exceeds R10

SQL : **SELECT BID, AVG(DEPOSIT) AS AVERAGEDEPOSIT FROM RESERVES WHERE DEPOSIT > 10 GROUP BY BID HAVING COUNT(DISTINCT SID) > 1 ORDER BY AVERAGEDEPOSIT;**

BID	AVERAGEDEPOSIT
109	120.0000

14. Get name & rating of sailors with rating exceeding 7 who made any reservation with 0 deposit.

SQL : **SELECT SNAME, RATING FROM SAILORS WHERE RATING > 7 AND SID IN (SELECT SID FROM RESERVES WHERE DEPOSIT = 0);**

SNAME	RATING
Martin	9
Carrey	10

15. Get names of boats located in a place other than Hout Bay or Fish Hoek.

SQL : **SELECT BNAME FROM BOATS WHERE LOCATION NOT IN ("HOUT BAY", "FISH HOEK");**

BNAME
-------

16. Get names of boats having a fee larger than any boat located in Hout Bay.

SQL : **SELECT DISTINCT BNAME FROM BOATS WHERE FEE > SOME (SELECT FEE FROM BOATS WHERE LOCATION = "HOUT BAY");**

BNAME
Yuppie
Joy
SeaPride

17. Get names that are in both the sailors and the captains relations.

SQL : **SELECT SNAME FROM SAILORS WHERE EXISTS (SELECT \* FROM CAPTAINS  
WHERE CAPTAINS.SID = SAILORS.SID);**

SNAME
Marx
Martin
Adams
Carrey

18. Get names of boats that have exactly 1 reservation.

SQL : **SELECT BNAME FROM BOATS AS B WHERE EXISTS(SELECT BID FROM  
RESERVES WHERE RESERVES.BID = B.BID);**

BNAME
Yuppie
Joy
SeaPride
Wayfarer

19. Get sailor ID and total deposit paid for sailors who have booked more than 1 boat.

SQL : **SELECT SID, TOTAL\_DEPOSIT FROM (SELECT SID, COUNT(BID),  
SUM(DEPOSIT) FROM RESERVES WHERE DEPOSIT IS NOT NULL AND DEPOSIT > 0  
GROUP BY SID) AS RESULT (SID, NUM\_BOATS, TOTAL\_DEPOSIT) WHERE  
NUM\_BOATS > 1;**

SID	TOTAL_DEPOSIT
23	240
27	220

20. Get all reservation info including details of the boat booked.

SQL : **SELECT \* FROM BOATS INNER JOIN RESERVES ON BOATS.BID = RESERVES.BID;**

BNAME	BID	FEE	LOCATION	SID	BID	DAY	DEPOSIT
Yuppie	101	400	Hout Bay	25	101	2014-08-08	0
Yuppie	101	400	Hout Bay	27	101	2014-08-09	100
Joy	104	200	Hout Bay	33	104	2014-09-11	0
SeaPride	108	500	Fish Hoek	23	108	2014-08-08	120
Wayfarer	109	120	Hout Bay	23	109	2014-08-01	120
Wayfarer	109	120	Hout Bay	27	109	2014-08-15	120
Wayfarer	109	120	Hout Bay	33	109	2014-09-04	0

21. Get all information on every boat. If a boat has reservations, including all its reservations info.

SQL : **SELECT \* FROM BOATS LEFT OUTER JOIN RESERVES ON BOATS.BID = RESERVES.BID;**

BNAME	BID	FEE	LOCATION	SID	BID	DAY	DEPOSIT
Yuppie	101	400	Hout Bay	25	101	2014-08-08	0
Yuppie	101	400	Hout Bay	27	101	2014-08-09	100
Joy	104	200	Hout Bay	33	104	2014-09-11	0
SeaPride	108	500	Fish Hoek	23	108	2014-08-08	120
Wayfarer	109	120	Hout Bay	23	109	2014-08-01	120
Wayfarer	109	120	Hout Bay	27	109	2014-08-15	120
Wayfarer	109	120	Hout Bay	33	109	2014-09-04	0

22. Create a new tuple for the boat named "Nino" which has fee R150, BID 110, and is in Fish Hoek.

SQL : **INSERT INTO BOATS VALUES("NINO", 110, 150, "FISH HOEK");**

BNAME	BID	FEE	LOCATION
Yuppie	101	400	Hout Bay
Joy	104	200	Hout Bay
SeaPride	108	500	Fish Hoek
Wayfarer	109	120	Hout Bay
NINO	110	150	FISH HOEK

23. Remove all bookings from Reserves where there is no deposit.

SQL : **DELETE FROM RESERVES WHERE DEPOSIT IS NULL OR DEPOSIT = 0;**

SID	BID	DAY	DEPOSIT
23	108	2014-08-08	120
23	109	2014-08-01	120
27	101	2014-08-09	100
27	109	2014-08-15	120

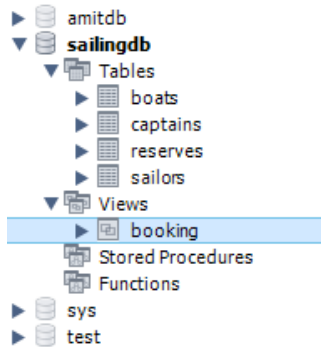
24. Increase the fee of every boat by 12%.

SQL : **UPDATE BOATS SET FEE = FEE \* 1.12;**

BNAME	BID	FEE	LOCATION
Yuppie	101	448	Hout Bay
Joy	104	224	Hout Bay
SeaPride	108	560	Fish Hoek
Wayfarer	109	134	Hout Bay
NINO	110	168	FISH HOEK

25. Make a view called Bookings which hides the Deposit value i.e. only has the other 3 attributes.

SQL : **CREATE VIEW BOOKING AS SELECT SID, BID, DAY FROM RESERVES;**



26. Create a table called Reserves with 3 integer attributes BID, SID & deposit, and a date attribute Day. Allow only deposit to be omitted, and ensure SID and BID values exist in the database. When someone books a boat it is for the whole day.

SQL : **CREATE TABLE RESERVES (**



BID INTEGER NOT NULL,  
SID INTEGER NOT NULL,  
DAY DATETIME NOT NULL,  
DEPOSIT INTEGER,  
PRIMARY KEY(BID, SID),  
CHECK (BID IN (SELECT BID FROM BOATS)),  
CHECK (SID IN (SELECT SID FROM SAILORS))));

	Field	Type	Null	Key	Default	Extra
►	SID	int	NO	PRI	NULL	
	BID	int	NO	PRI	NULL	
	DAY	date	YES		NULL	
	DEPOSIT	int	YES		NULL	

27. Add a new attribute NEEDSREPAIR to the Boats table. It is usually "N".

SQL : **ALTER TABLE BOATS ADD NEEDSREPAIR CHAR(1) DEFAULT "N";**

BNAME	BID	FEE	LOCATION	NEEDSREPAIR
Yuppie	101	448	Hout Bay	N
Joy	104	224	Hout Bay	N
SeaPride	108	560	Fish Hoek	N
Wayfarer	109	134	Hout Bay	N
NINO	110	168	FISH HOEK	N

28. ALTER TABLE SAILORS DROP AGE

SQL : **ALTER TABLE SAILORS DROP AGE;**

SNAME	SID	RATING
Marx	23	8
Martin	25	9
Adams	27	8
Carrey	33	10

## 29. DROP TABLE CAPTAINS

SQL : **DROP TABLE CAPTAINS;**

