-- Create Boat Table

CREATE TABLE Boat\_T(

  BoatID INT NOT NULL,

  BoatType VARCHAR(200) NOT NULL,

  BoatLength INT NOT NULL,

  CONSTRAINT Boat\_PK PRIMARY KEY (BoatID)

);

-- Populate Boat Table

INSERT INTO Boat\_T (BoatID, BoatType, BoatLength)

VALUES(1, 'Motorboat', 12);

INSERT INTO Boat\_T (BoatID, BoatType, BoatLength)

VALUES(2, 'Pontoon', 17);

INSERT INTO Boat\_T (BoatID, BoatType, BoatLength)

VALUES(3, 'Rowboat', 15);

INSERT INTO Boat\_T (BoatID, BoatType, BoatLength)

VALUES(4, 'Sailboat', 26);

INSERT INTO Boat\_T (BoatID, BoatType, BoatLength)

VALUES(5, 'Yacht', 14);

-- Create Sailor Tables

CREATE TABLE Sailor\_T(

  SailorID INT NOT NULL,

  SailorName VARCHAR(200) NOT NULL,

  BirthDate TEXT NOT NULL,

  RatePerDay INT NOT NULL,

  CONSTRAINT Sailor\_PK PRIMARY KEY (SailorID)

);

--Populate Sailor Table

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES (1, 'Smith', '1997-01-20', 3);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(2, 'Mike', '2019-05-03', 7);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(3, 'Jake', '2020-01-30', 5);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(4, 'Ross', '1996-11-10', 12);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(5, 'Drake', '1991-05-11', 7);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(6, 'Kai', '2014-12-14', 17);

INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(7, 'Rose', '2011-12-15',15);

    INSERT INTO Sailor\_T (SailorID, SailorName, BirthDate, RatePerDay)

VALUES(8, 'Blake', '2001-04-05',21);

--Create Reserves Table

CREATE TABLE Reserves\_T(

  SailorID INT NOT NULL,

  BoatID INT NOT NULL,

  Day VARCHAR(20) NOT NULL,

  CONSTRAINT Reserves\_PK PRIMARY KEY (SailorID, BoatID, Day),

  CONSTRAINT SailorID\_FK FOREIGN KEY (SailorID) REFERENCES Sailor\_T(SailorID),

  CONSTRAINT BoatID\_FK FOREIGN KEY (BoatID) REFERENCES Boat\_T(BoatID)

);

-- Populate Reserve Table

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES  (2, 2, 'Saturday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 1, 'Friday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (3, 5, 'Sunday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (4, 3, 'Monday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (6, 1, 'Tuesday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (5, 2, 'Tuesday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (5, 4, 'Sunday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (2, 1, 'Saturday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (2, 3, 'Friday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (2, 4, 'Sunday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 3, 'Monday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 2, 'Tuesday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 4, 'Sunday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 5, 'Sunday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES (1, 5, 'Tuesday');

INSERT INTO Reserves\_T (SailorID, BoatID, Day)

VALUES(1, 5, 'Friday');

/\* Question 1: Retrieve the sailors' names who reserved both Pontoon and Sailboat boats

(meaning they reserved at least one Pontoon and one Sailboat). \*/

SELECT DISTINCT S.SailorName, B.BoatType

FROM Sailor\_T S

JOIN Reserves\_T R ON S.SailorID = R.SailorID

JOIN Boat\_T B ON R.BoatID = B.BoatID

WHERE B.BoatType IN ('Pontoon', 'Sailboat')

AND EXISTS (

    SELECT 1

    FROM Reserves\_T R1

    JOIN Boat\_T B1 ON R1.BoatID = B1.BoatID

    WHERE R1.SailorID = S.SailorID AND B1.BoatType = 'Pontoon'

)

AND EXISTS (

    SELECT 1

    FROM Reserves\_T R2

    JOIN Boat\_T B2 ON R2.BoatID = B2.BoatID

    WHERE R2.SailorID = S.SailorID AND B2.BoatType = 'Sailboat'

);

**Ans**

A black and grey background

AI-generated content may be incorrect.

/\* Question 2: Retrieve the names of the sailors who have reserved every type of boat.

SELECT DISTINCT SailorName, BoatType

FROM Reserves\_T

JOIN Sailor\_T ON Reserves\_T.SailorID = Sailor\_T.SailorID

JOIN Boat\_T ON Reserves\_T.BoatID = Boat\_T.BoatID

WHERE Sailor\_T.SailorID IN (

    SELECT Reserves\_T.SailorID

    FROM Reserves\_T

    JOIN Boat\_T ON Reserves\_T.BoatID = Boat\_T.BoatID

    GROUP BY Reserves\_T.SailorID

    HAVING COUNT(DISTINCT Boat\_T.BoatType) = (SELECT COUNT(DISTINCT Boat\_T.BoatType) FROM Boat\_T))

ORDER BY Sailor\_T.SailorName, Boat\_T.BoatType;

**Ans**

A black and grey rectangular object

AI-generated content may be incorrect.

/\* Question 3: Retrieve the name of the sailor who reserved the most distinct count of boats that are of the type Yacht. \*/

SELECT SailorName, COUNT(BoatType) as YachtCount

FROM Reserves\_T

JOIN Sailor\_T ON Reserves\_T.SailorID = Sailor\_T.SailorID

JOIN Boat\_T ON Reserves\_T.BoatID = Boat\_T.BoatID

WHERE BoatType = 'Yacht'

GROUP BY SailorName

ORDER BY COUNT(DISTINCT Reserves\_T.BoatID) DESC

LIMIT 1;

**Ans**

A black rectangular object with a white stripe

AI-generated content may be incorrect.

/\* Question 4) Retrieve the names of sailors who have reserved boats with a daily rate greater than 10,  and list the boat types they reserved. \*/

select SailorName, BoatType, RatePerDay

FROM Sailor\_T

Join Reserves\_T ON Sailor\_T.SailorID = Reserves\_T.SailorID

JOIN Boat\_T ON Reserves\_T.BoatID = Boat\_T.BoatID

WHERE RatePerDay >10;

**Ans**

A screenshot of a computer

AI-generated content may be incorrect.