σ π ⋈, ⋃

List only the name and rating for all Sailors.

π sname, rating (S)

List all sailor information for sailors with a rating>8).

σ rating>8 (S)

List the boat id for boats all red boats.

π bid ( σ color = “red” (B)

List the boat id for all red boats and all green boats.

π bid σ color = “red” ⋃ color = “green” (B)

List the name of every sailor who is aged 16 or under.

π sname ( σ age < = 16 (S))

List the name and rating for all sailors who have a rating of 7 and below.

π sname,rating ( σ rating < = 7(S))

Count the number of reservations for boat number 4.

π bid (σ bid = 4(R))

Find the names of sailors who have reserved boat 103.

π sname ( σ bid = 103 (R ⋈ S))

Find the names of sailors who have reserved a red boat.

π color (σ color = “red”)(S ⋈ R ⋈ (π bid σ color = “red” (B)))

Find the colors of the boats reserved by Lubber.

π color (σ sname = “lubber”)(S ⋈ R ⋈ B)

Find the names of sailors who have reserved a red and green boat.

π sname (σ color = “red” ⋃ color = “green”)(S ⋈ R ⋈ (σ color = “red” ⋃ color = “green”)(B)

Find the names of sailors with age over 20 who have not reserved a red boat.

π sname (σ­ age > 20) – π sname (σ­ color = “red”)(S ⋈ R ⋈ B)