Chessica Nation

CS-300-ON

Database Management Systems

11 Sept 2022

Assignment 2

1. List only the name and rating for all Sailors.

πsname,rating(S)

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

σrating > 8(S)

3. List the boat id for boats all red boats.

πbid(σcolor = red(B))

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

πbid(σcolor = red(B) ⋃ σcolor = green(B))

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

πsname(σage <= 16(S))

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

πsname,rating(σrating <= 7(S))

7. Count the number of reservations for boat number 4.

ρR(myCount) ζ COUNT bid(σbid = 4(R))

8. Find the names of sailors who have reserved boat 103.

πsname(σbid = 103(R))

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

πsname(σcolor = red(R))

10. Find the colors of the boats reserved by Lubber.

πcolor(σsname = Lubber((πsid,sname(S)) ⋈((πbid,color(B)) ⋈ (πbid,sid(R)))))

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

πsname(σcolor = red((πsid,sname(S)) ⋈((πbid,color(B)) ⋈ (πbid,sid(R))))) **∩**

πsname(σcolor = green((πsid,sname(S)) ⋈((πbid,color(B)) ⋈ (πbid,sid(R)))))

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

πsname(σage > 20(S)) - πsname(σcolor = red((πsid,sname(S)) ⋈((πbid,color(B)) ⋈ (πbid,sid(R)))))