**Abdifatah Abdi**

**CS-300-ON**

**09/10/2022**

**Writing Queries using Relational Algebra**

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

**Πsname AND rating (Sailors)**

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

**Π(sname, rating, age)\*rating>8(Sailor)**

1. **List the boat id for boats all red boats.**

**Πbid(σcolor=’red’)(boats)**

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

**Πbid(σ color=’red’u color=’green’B ⋈R⋈S)**

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

**Πsname (σage<=16 Sailors)**

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

**Πsname (σrating<=7) (Sailors)**

1. **Count the number of reservations for boat number 4.**

**𝜋bid(𝜎bid=4(boat𝑐𝑜𝑢𝑛𝑡(4)(reservation)))**

1. **Find the names of sailors who have reserved boat 103.**

**πsname ((σbid=103Reserves) ⋈ Sailors)**

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

**Πsname(Πsid((Πbid(σcolor=’red’B)) ⋈R) ⋈S)**

1. **Find the colors of the boats reserved by Lubber.**

**πcolor((σsname = ‘Lubber’ Sailor)∞ Reserves ∞ Boats ))**

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

**Πsname(σ color=’red’u color=’green’B ⋈R⋈S)**

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

**Πsname (σage>20 Sailors) – πname ((σcolor=‘red’ Boats) ∞Reserves)**

**I struggled in this assignment :(**