Alyssa Hoshor
Assignment 2
CS 300 ON
Database Management Systems

1. List only the name and rating for all Sailors.
   $\Pi_{sname, rating}(S)$
2. List all sailor information for sailors with a rating>8).
   $\sigma_{rating > 8}(S)$
3. List the boat id for boats all red boats.
   $\Pi_{bid} (\sigma_{color = 'red'} (B))$
4. List the boat id for all red boats and all green boats.
   $\Pi_{bid} (\sigma_{color = 'red'} (B) \cup \sigma_{color = 'green'} (B))$
5. List the name of every sailor who is aged 16 or under.
   $\Pi_{name} (\sigma_{age \leq 16} (S)$
6. List the name and rating for all sailors who have a rating of 7 and below.
   $\Pi_{name, rating} (\sigma_{rating \leq 7} (S))$
7. Count the number of reservations for boat number 4.
   $\rho_R(myCount)\ \zeta_{COUNT\ bid}\ (\sigma_{bid = 4} (R))$
8. Find the names of sailors who have reserved boat 103.
   $\Pi_{sname} (S \bowtie (\sigma_{bid = 103} (R)$
9. Find the names of sailors who have reserved a red boat.
   $\Pi_{sname} (S \bowtie (R \bowtie \sigma_{color = 'red'} (B)))$
10. Find the colors of the boats reserved by Lubber.
    $\Pi_{color}(B \bowtie (R \bowtie (\sigma_{sname = 'Lubber'} (S))))$
11. Find the names of sailors who have reserved a red and green boat.
    $\Pi_{sname} (S \bowtie (R \bowtie \sigma_{color = 'red'} (B))) \cap \Pi_{sname} (S \bowtie (R \bowtie \sigma_{color = 'green'} (B)))$
12. Find the names of sailors with age over 20 who have not reserved a red boat.
    $\Pi_{sname} (\Pi_{sid} (\sigma_{age > 20} (S) - \Pi_{sid} (\sigma_{color = 'red'} (R)))$