**Exercise 6.3.2**

**(b)**

SELECT DISTINCT class

FROM Ships

WHERE name IN (SELECT ship

FROM Outcomes

WHERE result = 'sunk');

SELECT DISTINCT Classes.class

FROM Classes JOIN Ships ON Classes.class = Ships.class

WHERE EXISTS (SELECT Ship

FROM Outcomes

WHERE result = 'sunk' AND ship = name);

**(b) Output:**



**(e) Output:**  **(e)**

 SELECT name

FROM Ships JOIN Classes C1 ON Ships.class = C1.class

WHERE numGuns >= ALL (SELECT numGuns

FROM Ships JOIN Classes C2 ON Ships.class = C2.class

AND C2.bore = C1.bore);

SELECT name

FROM Ships JOIN Classes C1 ON Ships.class = C1.class

WHERE numGuns IN (SELECT MAX(numGuns)

FROM Ships JOIN Classes C2 ON Ships.class = C2.class

AND C2.bore = C1.bore);

**Exercise 6.4.7**

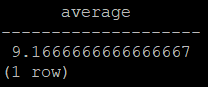
**(a)** SELECT COUNT(class) FROM Classes WHERE type = 'bb';

**Output:**

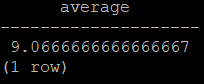


**(b)** SELECT AVG(numGuns) AS average FROM Classes WHERE type = 'bb';

**Output:**

****

**(c)** **Output:**

SELECT AVG(numGuns) AS average

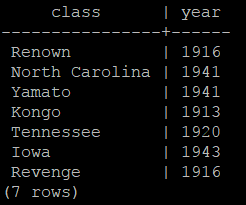
FROM Classes JOIN Ships

ON Classes.class = Ships.class

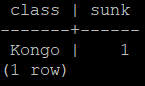
WHERE type = 'bb';

**(d)** SELECT class, MIN(launched) AS year FROM Ships GROUP BY class;

**Output:**

****

**(e) Output:**

SELECT class, COUNT(result) AS Sunk

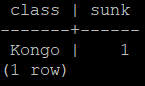
FROM Ships JOIN Outcomes

ON Ships.name = Outcomes.ship

WHERE result = 'sunk'

GROUP BY class;

**(f) Output:**

SELECT Ships.class, COUNT(ship) AS sunk

FROM Outcomes JOIN Ships

ON Outcomes.ship = Ships.name

WHERE result = 'sunk' AND class IN (SELECT class

FROM Ships

WHERE (SELECT count(name)

FROM Ships S

WHERE S.class = Ships.class) >= 3)

GROUP BY class;

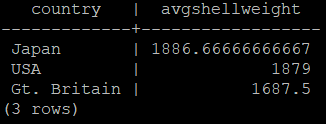
**(g)**

SELECT country, AVG((bore^3)/2) AS avgshellweight

FROM Classes JOIN Ships ON Classes.class = Ships.class

GROUP BY country;

**Output:**

****

**I, Justin Anthony Timberlake, declare that I have completed this assignment completely and entirely on my own, without any consultation with others. I understand that any breach of the UAB Academic Honor Code may result in severe penalties.**

**webusername : justony7web**

**password : pikachu2**