

**Problem 1**

6.1.2 b)

```
SELECT birthdate  
FROM MovieStar  
WHERE name = 'Sandra Bullock';
```

6.1.2 d)

```
SELECT name  
FROM MovieExec  
WHERE netWorth >= 10000000;
```

6.1.2 e)

```
SELECT name  
FROM MovieStar  
WHERE gender = 'Male' OR address LIKE '%Malibu%';
```

**Problem 2**

6.1.4 c)

```
SELECT ship, battle  
FROM Outcomes  
WHERE result = 'sunk';
```

Result:

ship	battle
Arizona	Pearl Harbor
Bismarck	Denmark Strait
Fuso	Surigao Strait
Hood	Denmark Strait
Kirishima	Guadalcanal
Scharnhorst	North Cape
Yamashiro	Surigao Strait

6.1.4 d)

SELECT name

From Ships

WHERE name = class;

Result:

name
Iowa
Kongo
North Carolina
Renown
Revenge
Tennessee
Yamato

6.1.4 e)

SELECT name

From Ships

WHERE name LIKE 'R%';

Result:

name
Ramillies
Renown
Repulse
Resolution
Revenge
Royal Oak
Royal Sovereign

**Problem 3**

6.2.1 a)

```
SELECT name  
FROM MovieStar  
WHERE gender = 'Male' AND name IN (SELECT starName FROM StarsIn WHERE movieTitle  
= 'Titanic');
```

6.2.1 b)

```
SELECT starName  
FROM StarsIn  
WHERE movieTitle IN (SELECT title FROM Movies WHERE year = 1995 AND studioName =  
'MGM');
```

6.2.1 d)

```
SELECT title  
FROM Movies  
WHERE length > (SELECT length FROM Movies WHERE title = 'Gone With the Wind');
```

**Problem 4**

6.2.2 a)

```
SELECT maker, speed  
FROM Product, Laptop  
WHERE Product.model = Laptop.model AND hd >= 30;
```

Result:

maker	speed
A	2.00
A	2.16
A	2.00
B	1.83
E	2.00
E	1.73
E	1.80
F	1.60
F	1.60
G	2.00

6.2.2 b)

```
SELECT PC.model, price  
FROM Product, PC  
WHERE Product.model = PC.model AND maker = 'B'  
UNION  
SELECT Laptop.model, price  
FROM Product, Laptop  
WHERE Product.model = Laptop.model AND maker = 'B'  
UNION  
SELECT Printer.model, price  
FROM Product, Printer  
WHERE Product.model = Printer.model AND maker = 'B';
```

Result:

model	price
1004	649
1005	630
1006	1049
2007	1429

6.2.2 c)

```
SELECT maker  
FROM Product  
WHERE type = 'laptop'  
EXCEPT  
SELECT maker  
FROM Product  
WHERE type = 'pc';
```

Result:

maker
F
G

6.2.2 e)

```
SELECT pc1.model, pc2.model  
FROM PC pc1, PC pc2  
WHERE pc1.speed = pc2.speed AND pc1.ram = pc2.ram AND pc1.model < pc2.model;
```

Result:

pc1.model	pc2.model
1004	1012

### Problem 5

6.2.3 a)

```
SELECT name  
FROM Ships, Classes  
WHERE Classes.class=Ships.class AND displacement>35000;
```

Result:

name
Iowa
Missouri
New Jersey
Wisconsin
North Carolina
Washington
Musashi
Yamato

6.2.3 b)

```
SELECT name, displacement, numguns
FROM Classes, Ships, Outcomes
WHERE Classes.class = Ships.class AND Ships.name = Outcomes.ship AND
battle='Guadalcanal';
```

Result:

name	displacement	numguns
Washington	37000	9
kirishima	32000	8

6.2.3 d)

```
SELECT country
FROM classes
WHERE type='bb'
INTERSECT
SELECT country
FROM classes
WHERE type='bc';
```

Result:

country
Japan
Gt. Britain

### Problem 6

6.3.1 a)

```
SELECT maker
FROM Product
WHERE model IN (SELECT model FROM PC WHERE speed >= 3.0);
```

```
SELECT maker
FROM Product
WHERE EXISTS (SELECT model FROM PC WHERE speed >= 3.0 AND Product.model =
PC.model);
```

6.3.1 c)

```
SELECT model  
FROM Laptop  
WHERE Laptop.speed < ANY(SELECT speed FROM PC);
```

```
SELECT model
```

```
FROM Laptop
```

```
WHERE EXISTS(SELECT speed FROM PC WHERE PC.speed > Laptop.speed);
```

### **Problem 7**

6.3.2 b)

```
SELECT class  
FROM Ships  
WHERE EXISTS (SELECT * FROM Outcomes WHERE Ships.name = Outcomes.ship AND  
result = 'sunk');
```

```
SELECT DISTINCT C.class
```

```
FROM Classes C, Ships S
```

```
WHERE S.name IN (select O.ship FROM Outcomes O where O.result = 'sunk');
```

6.3.2 c)

```
SELECT name  
FROM Ships  
WHERE Ship.class IN(SELECT class FROM Classes WHERE bore = 16);
```

```
SELECT name
```

```
FROM Ships
```

```
WHERE EXISTS(SELECT class FROM Classes WHERE Classes.class = Ships.class AND  
bore = 16);
```

6.3.2 d)

```
SELECT battle  
FROM Outcomes  
WHERE Outcomes.ship IN(SELECT name FROM Ships WHERE class = 'Kongo');
```

```
SELECT battle
```

```
FROM Outcomes
```

```
WHERE Outcomes.ship = ANY(SELECT name FROM Ships WHERE class = 'Kongo');
```

**Problem 8**

6.3.7 a)

In cross join it returns all rows in one table join to all rows in another table with or without a match.

6.3.7 b)

The Natural full outer join will give the following tuples:

- What is in both StarsIn and MovieStar
- What is in StarsIn but not in MovieStar
- What is not in StarsIn but is in MovieStar

6.3.7 c)

The full outer join returns the rows matched and unmatched from both left and right tables joined with the condition.