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CPS 393

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Exercise 6.1.2:

Write the following queries, based on our running movie database example in SQL.

```
Movies (title, year, length, genre, studioName, producerC#)
StarsIn (movieTitle, movieYear, starName)
MovieStar (name, address, gender, birthdate)
MovieExec (name, address, cert#, netWorth)
Studio (name, address, presC#)
```
a) Find the address of MGM studios.

```
        SELECT address
FROM Studio
WHERE name = 'MGM';
```
b) Find Sandra Bullock's birthdate.

```
SELECT birthdate
FROM MovieStar
WHERE name = 'Sandra Bullock';
```
c) Find all the stars that appeared either in a movie made in 1980 or a movie with "Love" in the title.

```
SELECT starName
FROM StarsIn
WHERE movieYear = 1980
        OR movieTitle LIKE '%Love%';
```
d) Find all executives worth at least $10,000,000.

```
SELECT name
FROM MovieExec
WHERE netWorth >= 10000000;
```
e) Find all the stars who either are male or live in Malibu (have string Malibu as a part of their address).

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

Exercise 6.1.3:

Write the following queries in SQL.

```
Product(maker, model, type)
PC(model, speed, ram, hd, price)
Laptop(model, speed, ram, hd, screen, price)
Printer(model, color, type, price)
```

a) Find the model number, speed, and hard-disk size for all PC's whose price is under $1000.

```
SELECT model, speed, hd
FROM PC
WHERE price < 1000;
```

b) Do the same as (a), but rename the speed column gigahertz and the hd column gigabytes.

```
SELECT model, speed AS gigahertz, hd AS gigabytes
FROM PC
WHERE price < 1000;
```

c) Find the manufacturers of printers.

```
SELECT DISTINCT maker
FROM Product
WHERE type = 'Printer';
```

d) Find the model number, memory size, and screen size for laptops costing more than $1500.

```
SELECT model, ram, screen
FROM Laptop
WHERE price > 1500;
```

e) Find all the tuples in the Printer relation for color printers. Remember that color is a boolean-valued attribute.

```
SELECT *
FROM Printer
WHERE color = TRUE;
```

f) Find the model number and hard-disk size for those PC 's that have a speed of 3.2 and a price less than $2000.

```
SELECT model, hd
FROM PC
WHERE speed = 3.2
AND price < 2000;
```


Exercise 6.1.4: Write the following queries

```
Classes(class, type, country, numGuns, bore, displacement)
```

```
Ships(name, class, launched)
Battles(name, date)
Outcomes(ship, battle, result)
```

a) Find the class name and country for all classes with at least 10 guns.

```
SELECT class, country
FROM Classes
WHERE numGuns >= 10;
```

b) Find the names of all ships launched prior to 1918, but call the resulting column shipName.

```
SELECT name AS shipName
FROM Ships
WHERE launched < 1918;
```

c) Find the names of ships sunk in battle and the name of the battle in which they were sunk.

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

d) Find all ships that have the same name as their class.

```
SELECT name
FROM Ships
WHERE name = class;
```

e) Find the names of all ships that begin with the letter "R."

```
SELECT name
FROM Ships
WHERE name LIKE 'R%';
```

f) Find the names of all ships whose name consists of three or more words (e.g., King George V).

```
SELECT name
FROM Ships
WHERE LENGTH(name) - LENGTH(REPLACE(name, ' ', '')) >= 2;
```