Logic Programming

Assume we have facts for the predicates:

```
human/1

male/1

female/1

father/2

mother/2
```

Examples:
```
human(john).
human(paul).
human(mary).

male(john).
male(paul).

female(mary).

father(john,mary).

mother(mary,paul).
```

Exercise

Write Horn clauses defining the following predicates with the given meaning.

a) **man/1**   A man is a human who is male
    woman/1   A woman is a human who is female

    Solution:
```
man(X)   :-  human(X), male(X).
woman(X) :- human(X), female(X).
```

b) **parent/2**   X is the parent of Y if it is either the father or the mother of Y

    Solution:
```
parent(X,Y) :- mother(X,Y).
parent(X,Y) :- father(X,Y).
```

c) **ancestor/2**   An ancestor is the parent or an ancestor of a parent

    Solution:
```
ancestor(X,Y) :- parent(X,Y).
ancestor(X,Y) :- parent(X,Z),  ancestor(Z,Y).
```