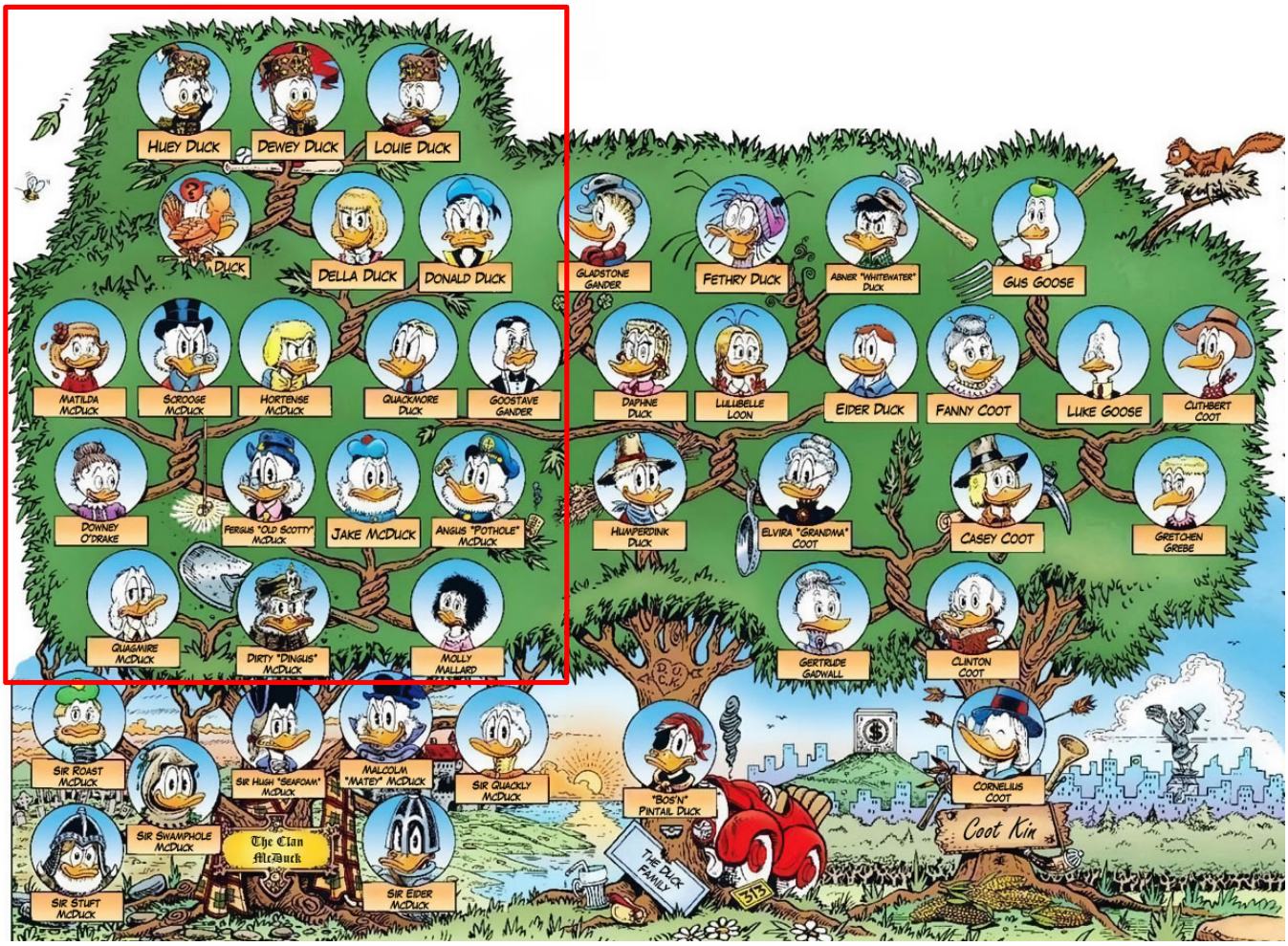
Exercise in Prolog

Have a look at the following family tree from http://vignette4.wikia.nocookie.net/scrooge-mcduck/images/9/9e/Ducktree.png/revision/latest?cb=20151224103045. Your task is to describe the part **framed by the red rectangle** in Prolog.



The exercise is thus to represent the information within the tree and define the following *relations*:

> parent, son, daughter, uncle, aunt, nephew, cousin, grandfather, grandmother, ancestor

The **only** *facts* that should exist in the program are the following:

> man, woman, father, mother

Note that the predicate ancestor must be generally defined (by recursion) so it can be applied to an arbitrary depth in the tree, for instance is Molly ancestor of Huey, etc.

You are supposed to provide a text-file with the name *ducktree.txt* containing executable Prolog code. Test the following queries to see that it works:

- ancestor(scotty,huey), checks that scotty is ancestor of huey
- ancestor(hortense,louie), checks that hortense is ancestor of louie

- ancestor(X, huey), lists the ancestor of huey
- ancestor(hortense,X), lists the ducks that have hortense as ancestor

A suggestion is to complete the program below:

```
man(scotty).
man(donald).

woman(molly).

father(scotty,matilda).
father(scotty,scrooge).
father(scotty,hortense).

mother(della,huey).

daughter(X,Y):-father(Y,X),woman(X).
daughter (X,Y):-mother(Y,X),woman(X).

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

sibling(X,Y):-parent(Z,X),parent(Z,Y).

cousin(X,Y):-parent(Z,X),parent(W,Y),sibling(Z,W).
```