

CSC240 - Sample Rules

order(tubenose):- nostrils(external_tubular), live(at_sea), bill(hooked).
order(waterfowl):- feet(webbed), bill(flat).
order(falconiforms):- eats(meat), feet(curved_talons), bill(sharp_hooked).
order(passerformes):- feet(one_long_backward_toe).

family(albatross):- order(tubenose), size(large), wings(long_narrow).
family(swan):- order(waterfowl), neck(long), color(white), flight(ponderous).
family(goose):- order(waterfowl), size(plump), flight(powerful).
family(duck):- order(waterfowl), feed(on_water_surface), flight(agile).
family(vulture):- order(falconiforms), feed(scavage), wings(broad).
family(falcon):- order(falconiforms), wings(long_pointed), head(large), tail(narrow_at_tip).
family(flycatcher):- order(passerformes), bill(flat), eats(flying_insects).
family(swallow):- order(passerformes), wings(long_pointed), tail(forked), bill(short).

bird(laysan_albatross):- family(albatross), color(white).
bird(black_footed_albatross):- family(albatross), color(dark).
bird(fulmar):- order(tubenose), size(medium), flight(flap_glide).
bird(whistling_swan):- family(swan), voice(muffled_musical_whistle).
bird(trumpeter_swan):- family(swan), voice(loud_trumpeting).
bird(canada_goose):-
 family(goose),
 season(winter), % rules can be further broken down
 country(united_states), % to include regions and migration
 head(black), % patterns
 cheek(white).
bird(canada_goose):- family(goose), season(summer), country(canada), head(black), cheek(white).
bird(snow_goose):- family(goose), color(white).
bird(mallard):-
 family(duck), % different rules for male
 voice(quack),
 head(green).
bird(mallard):-
 family(duck), % and female
 voice(quack),
 color(mottled_brown).
bird(pintail):- family(duck), voice(short_whistle).
bird(turkey_vulture):- family(vulture), flight_profile(v_shaped).
bird(california_condor):- family(vulture), flight_profile(flat).
bird(sparrow_hawk):- family(falcon), eats(insects).
bird(peregrine_falcon):- family(falcon), eats(birds).
bird(great_crested_flycatcher):- family(flycatcher), tail(long_rusty).
bird(ash_throated_flycatcher):- family(flycatcher), throat(white).
bird(barn_swallow):- family(swallow), tail(forked).
bird(cliff_swallow):- family(swallow), tail(square).
bird(purple_martin):- family(swallow), color(dark).

% adapted from "<https://www.cs.ccu.edu.tw/~dan/prologProgs/BIRDS.txt>"
<http://www2.hawaii.edu/~nreed/ics313/assignments/prolog/AmziCh2.pdf>