

```
%%World of Pets%%
```

```
%%Facts
```

```
%cat(N, W, color(C), A) where a cat with name N weighs W pounds with a  
color C and is age A
```

```
cat(cappucino, 10, color(calico), 1).
```

```
cat(garfield, 25, color(orange), 39).
```

```
cat(tally, 9, color(grey), 6).
```

```
cat(abby, 13, color(calico), 10).
```

```
%dog(N, W, color(C), A) where a dog with name N weighs W pounds with  
color C and age A
```

```
dog(becca, 12, color(white), 14).
```

```
dog(kita, 65, color(white), 3).
```

```
dog(chutney, 10, color(brown), 6).
```

```
dog(macy, 30, color(black), 7).
```

```
%%Rules
```

```
%cats :: all items listed are cats
```

```
cats :- cat(Name, _, _, _), write(Name), nl, fail.
```

```
cats.
```

```
%dogs :: lists all the dogs
```

```
dogs :- dog(Name, _, _, _), write(Name), nl, fail.
```

```
dogs.
```

```
%old :: true if pet N is old
```

```
old(N) :- cat(N, _, _, A), A > 9.
```

```
old(N) :- dog(N, _, _, A), A > 7.
```

```
%mid_age(N) :: true if pet N is not old or young
```

```
mid_age(N) :- cat(N, _, _, A), A =< 9, A >= 4.
```

```
mid_age(N) :- dog(N, _, _, A), A =< 7, A >= 3.
```

```
%young :: true if pet N is young
```

```
young(N) :- cat(N, _, _, A), A < 4.
```

```
young(N) :- dog(N, _, _, A), A < 3.
```

```
%newtricks(N) :: true if pet N can easily learn new tricks
```

```
newtricks(N) :- young(N), dog(N, _, _, _).
```

```
newtricks(N) :- mid_age(N), dog(N, _, _, _).
```

```
%big(N) :: true if pet N is large
```

```
big(N) :- cat(N, W, _, _), W > 12.
```

```
big(N) :- dog(N, W, _, _), W > 40.
```

```
%clean_up_size(N, P) :: size of poop in lbs. for each animal
```

```
clean_up_size(N, P) :- cat(N, W, _, _), P is 0.08 * W.
```

```
clean_up_size(N, P) :- dog(N, W, _, _), P is 0.11 * W.
```