**9. Built-in predicate function findall**

CODING :

content(mary,red).

content(mia,red).

content(henry,red).

content(Names,red):-colors(Names).

colors(mia).

**OUTPUT :**

?- findall(A,content(A,red),Result).

Result = [mary, mia, henry, mia].

**Result:**

Thus the builtin predicate program executed successfully

**10. Evaluation of mathematical expressions**

**CODING :**

ADD is 45+12.

SUB is 45-12.

MUL is 45\*12.

DIV is 45/12.

POW is 12\*\*2.

POW is 12^2.

INTDIV is 45//12.

Mod is 45 mod 12.

R is 144,

S is sqrt(R).

R is 45,S is 48,

T is max(R,S).

PROGRAM FOR COMPARISON OPERATORS:

13\*2>12+13.

12+13>13\*2.

12+13<13\*2.

13\*2<12+13.

13\*2>=12+13.

12+13>=13\*2.

12+13>=13+12.

12+13=<13\*2.

13\*2=<12+13.

12+13=<13+12.

12+13=:=13+12.

12+13=:=13+14.

12+13=\=13+12.

12+13=\=13+14.

R is 45,

S is sin(R).

R is 45,

S is cos(R).

OUTPUT :

?- ADD is 45+12.

ADD = 57.

?- SUB is 45-12.

SUB = 33.

?- MUL is 45\*12.

MUL = 540.

?- DIV is 45/12.

DIV = 3.75.

?- POW is 12\*\*2.

POW = 144.

?- POW is 12^2.

POW = 144.

?- INTDIV is 45//12.

INTDIV = 3.

?- Mod is 45 mod 12.

Mod = 9.

?- R is 144,

| S is sqrt(R).

R = 144,

S = 12.0.

?- R is 45,S is 48,

T is max(R,S).

| R = 45,

S = T, T = 48.

**OUTPUT FOR COMPARISON OPERATORS :**

?- 13\*2>12+13.

true.

?- 12+13>13\*2.

false.

?- 12+13<13\*2.

true.

?- 13\*2<12+13.

false.

?- 13\*2>=12+13.

true.

?- 12+13>=13\*2.

false.

?- 12+13>=13+12.

true.

?- 12+13=<13\*2.

true.

?- 13\*2=<12+13.

false.

?- 12+13=<13+12.

true.

?- 12+13=:=13+12.

true.

?- 12+13=:=13+14.

false.

?- 12+13=\=13+12.

false.

?- 12+13=\=13+14.

true.

?- R is 45,

S is sin(R).

|

R = 45,

S = 0.8509035245341184.

?- R is 45,

S is cos(R).

|

R = 45,

S = 0.5253219888177297

**Result:**

Thus the evaluation of mathematical expressions program executed successfully