625 Programming Assignment 2

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Resolution Theorem Prover

RESOLVED HARMONIA EXAMPLE IN LISP:

```
(defvar *harmonia*   '((1 ((Grandparent x y)) ((Parent x z) (Parent z y)))
                      (2 ((Parent x y)) ((Mother x y)))
                      (3 ((Parent x y)) ((Father x y)))
                      (4 ((Father (Zeus) (Ares))) nil)
                      (5 ((Mother (Hera) (Ares))) nil)
                      (6 ((Father (Ares) (Harmonia))) nil)
                      (7 Nil ((Grandparent x (Harmonia))))))
```

With Answer Predicate:

```
(defvar *Harmoniaexp*  '((1 ((Grandparent x y)) ((Parent x z) (Parent z y)))
                         (2 ((Parent x y)) ((Mother x y)))
                         (3 ((Parent x y)) ((Father x y)))
                         (4 ((Father (Zeus) (Ares))) nil)
                         (5 ((Mother (Hera) (Ares))) nil)
                         (6 ((Father (Ares) (Harmonia))) nil)
                         (7 ((Answer x)) ((Grandparent x (Harmonia))))))
```

Own Example taken is:

(a) Marcus was a man.
(b) Marcus was a Roman.
(c) All men are people.
(d) Caesar was a ruler.
(e) All Romans were either loyal to Caesar or hated him (or both).
(f) Everyone is loyal to someone.
(g) People only try to assassinate rulers they are not loyal to.
(h) Marcus tried to assassinate Caesar.

Clausal Form:

1. man(marcus)
2. roman(marcus)
3. (¬man(X), person(X))
4. ruler(caesar)
5. (¬roman(X), loyal(X,caesar), hate(X,caesar))
6. (loyal(X,f(X))
7. (¬person(X), ¬ruler(Y), ¬tryassasin(X,Y), ¬loyal(X,Y))
8. tryassasin(marcus,caesar)

Query - Who hated Caesar?

Example Resolved in Lisp:

```
(defvar *cae*   '((1 ((man (marcus))) nil  )
                  (2 ((roman (marcus))) nil  )
                (3 ((person x)) ((man x))  )
                  (4 ((ruler (caesar))) nil  )
                  (5 ((loyal x (caesar)) (hate x (caesar))) ((roman x)))
               (6 ((loyal x (f x))) nil )
               (7  nil ( (person x) (ruler y) (ta x y) (loyal x y) ) )
               (8  ( (ta (marcus) (caesar) ) ) nil )
                 (9  ((Answer x)) ((hate x (caesar))))))
```

BASIC (OWN EXAMPLE 2)

```
(defvar *basic* '((1 ((hound y)) ((howl x)))

                  (2 ((have z) (howl (a))) nil)

                  (3 nil ((have w)))

                  (4 ((howl (b))) ((hound k)))

                  (5 ((Answer g)) ((hound p)))))
```

PART 1: TWO-POINTER METHOD

The resolution rule in propositional logic is a single valid inference rule that produces a new clause implied by two clauses containing complementary literals. A literal is a propositional variable or the negation of a propositional variable. Two

literals are said to be complements if one is the negation of a propositional variable. Two literals are said to be complements if one is the negation of the other. The resulting clause contains all the literals that do not have complements.

The **2-pointer algorithm** is run for total of 5 cases in 2 parts:

1. Without adding Answer predicate for False condition
2. With adding Answer predicate for False condition (Question Answering format)

Following are the results obtained for running 2-pointer algorithm for all 5 cases:

A. TAKING NIL AS FALSE (WITHOUT QUESTION-ANSWERING FORMAT)

1. Howling hound (howling)

```
* (two-pointer *howling1* 6)

 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (9 NIL ((HAVE X (B)) (CAT Y) (HAVE X Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (10 NIL ((HOWL V) (HAVE (JOHN) V)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (11 NIL ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (12 NIL ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (13 NIL ((HOWL (B)) (LS (JOHN))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (14 NIL ((CAT (A)) (HAVE (JOHN) (B))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (15 ((HOUND (A))) ((HAVE X (A)) (HAVE X (B))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (16 NIL ((HAVE (JOHN) Y) (CAT Y)))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (17 NIL ((CAT (B))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (18 NIL ((HOUND V) (HAVE (JOHN) V)))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (19 NIL ((HOWL (A))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (20 NIL ((HOWL (B))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (21 NIL ((CAT (B)) (MOUSE (A))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 11
```

```
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (136 NIL
                        ((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
                         (MOUSE Z) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (137 NIL
                        ((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
                         (MOUSE Z) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (138 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
                         (MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (139 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
                         (MOUSE (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (140 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (141 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (CAT (B))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (142 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (143 NIL
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (HAVE (JOHN) (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (144 NIL ((HAVE W (A)) (LS W) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (145 ((HOWL (A))) NIL)
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (146 ((HOWL (A))) ((LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 50
NEW RESOLVED CLAUSE  : (147 ((HOUND (A))) ((LS (JOHN))))
RESOLVING CLAUSE 1  : 50
RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (148 NIL NIL)
THEOREM IS RESOLVED TO - : NIL
NIL
```

Theorem gets resolved in the 148th clause.

2. Drug dealer and customs official (rr)

```
* (two-pointer *rr1* 7)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (9 ((RR (A))) NIL)
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (10 ((CHASE (B) (A))) NIL)
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (11 NIL ((SMART U) (CATCH (B) U) (RR U)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (12 ((CATCH (B) T) (FRUSTRATED (B)))
                        ((CHASE (B) T) (RR T)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (13 ((CATCH (B) T)) ((CHASE (B) T) (RR T) (COYOTE (B))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (14 ((SMART (A))) ((BEEP (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (15 NIL ((SMART (A)) (CATCH W (A)) (COYOTE W)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (16 ((CATCH S (A)) (FRUSTRATED S))
                        ((CHASE S (A)) (COYOTE S)))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (17 ((BEEP (A))) NIL)
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (18 ((CATCH (B) (A)) (FRUSTRATED (B)))
                        ((RR (A)) (COYOTE (B))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (19 NIL ((CATCH (B) (A)) (SMART (A)) (COYOTE Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (20 NIL ((BEEP U) (CATCH (B) U) (RR U)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (21 ((FRUSTRATED (B)))
                        ((CHASE (B) U) (COYOTE (B)) (SMART U) (RR U)))
 RESOLVING CLAUSE 1 : 9
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (22 NIL ((CATCH (B) (A)) (SMART (A))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (23 ((FRUSTRATED (B)) (CATCH (B) (A)))
                        ((COYOTE Y) (CHASE (B) (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (24 ((FRUSTRATED (B)))
                        ((SMART T) (COYOTE (B)) (CHASE (B) T) (RR T)))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (25 ((CATCH (B) T)) ((RR T) (CHASE (B) T)))
 RESOLVING CLAUSE 1 : 9
 RESOLVING CLAUSE 2 : 12
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RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 114
NEW RESOLVED CLAUSE  : (204 ((FRUSTRATED S)) ((COYOTE S) (RR (A))))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 114
NEW RESOLVED CLAUSE  : (205 ((FRUSTRATED S)) ((COYOTE S) (RR (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (206 ((FRUSTRATED S)) ((COYOTE S)))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (207 ((FRUSTRATED S)) ((COYOTE Y) (COYOTE S)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 118
NEW RESOLVED CLAUSE  : (208 ((FRUSTRATED S))
                       ((COYOTE S) (BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (209 ((FRUSTRATED S))
                       ((COYOTE Y) (CHASE S (A)) (COYOTE S) (RR (A))
                        (BEEP (A))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (210 ((FRUSTRATED S))
                       ((COYOTE Y) (CHASE S (A)) (COYOTE S) (BEEP (A))))
RESOLVING CLAUSE 1 : 66
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE  : (211 NIL ((CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 67
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE  : (212 ((FRUSTRATED (B))) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 71
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE  : (213 NIL ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 77
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE  : (214 ((FRUSTRATED (B))) NIL)
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (215 NIL ((SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 51
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (216 NIL ((BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 125
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (217 NIL ((COYOTE Y)))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE  : (218 NIL ((SMART (A))))
RESOLVING CLAUSE 1 : 56
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE  : (219 NIL ((BEEP (A))))
RESOLVING CLAUSE 1  : 160
RESOLVING CLAUSE 2 : 126
LAST CLAUSE : (220 NIL NIL)
THEOREM IS RESOLVED TO - : NIL
NIL
```

Theorem gets resolved in the 220th clause

3. Coyote and roadrunner (customs)

```
* (two-pointer *customs1* 7)

RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (8 ((V Y)) ((E Y) (D (F Y))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (9 NIL ((C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (10 NIL ((S (A) R) (C R)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (11 ((V (A))) ((D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (12 ((V Y)) ((S (A) (F Y)) (E Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (13 NIL ((D (F Y)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (14 ((V Y)) ((E Y) (C (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (15 ((V (A))) ((E (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (16 ((V (A))) ((S (A) (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (17 NIL ((D (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (18 ((V (A))) ((E (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (19 NIL ((E Y) (S (A) (F Y)) (D Y)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (20 NIL ((E (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (21 NIL ((E Y) (D (F Y)) (S (A) Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (22 ((V (A))) ((C (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (23 NIL ((C (A)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (24 ((V (A))) ((C (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 15
```

```
 NEW RESOLVED CLAUSE  : (50 ((V (A))) ((S (A) (A)) (E (A))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 33
 NEW RESOLVED CLAUSE  : (51 ((V (A))) ((E (F (A))) (S (A) (F (F (A)))) (E (A))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 34
 NEW RESOLVED CLAUSE  : (52 ((V (A))) ((E (F (A))) (D (F (F (A))))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 34
 NEW RESOLVED CLAUSE  : (53 NIL ((E (A)) (E (F (A))) (D (F (F (A)))) (D (A))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 35
 NEW RESOLVED CLAUSE  : (54 ((V (A))) ((C (A)) (E Y) (D Y)))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 35
 NEW RESOLVED CLAUSE  : (55 ((V Y)) ((C (A)) (E Y) (D (A))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 36
 NEW RESOLVED CLAUSE  : (56 NIL ((S (A) (A)) (C (A))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 37
 NEW RESOLVED CLAUSE  : (57 ((V (A))) ((C (A)) (D (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 37
 NEW RESOLVED CLAUSE  : (58 ((V (A))) ((E (A)) (C (A))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 37
 NEW RESOLVED CLAUSE  : (59 ((V Y)) ((E Y) (C (A)) (S (A) Y)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 38
 NEW RESOLVED CLAUSE  : (60 ((V Y)) ((C (A)) (E (A)) (E Y)))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 39
 NEW RESOLVED CLAUSE  : (61 ((V (A))) ((C (A)) (E (F (A))) (E (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 40
 NEW RESOLVED CLAUSE  : (62 NIL ((C (F (A)))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 40
 NEW RESOLVED CLAUSE  : (63 NIL ((S (A) (A)) (C (F (A)))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 42
 NEW RESOLVED CLAUSE  : (64 ((V X)) ((S (A) (A)) (C (F (A))) (E (A)) (E X)))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 44
 NEW RESOLVED CLAUSE  : (65 ((V X)) ((S (A) (F (A))) (S (A) (A)) (E X)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 45
 NEW RESOLVED CLAUSE  : (66 ((V (A))) ((S (A) (A)) (D (F (A)))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 45
 NEW RESOLVED CLAUSE  : (67 NIL ((E X) (S (A) (A)) (D (F (A))) (D X)))
 RESOLVING CLAUSE 1  : 46
 RESOLVING CLAUSE 2 : 4
 LAST CLAUSE : (68 NIL NIL)
 THEOREM IS RESOLVED TO - : NIL
NIL
*
```

Theorem gets resolved in the 68th clause

B. TAKING ANSWER PREDICATE AS FALSE (QUESTION-ANSWERING FORMAT)

1. Howling hound (howling)

```
* (two-pointer *howling* 6)

 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (9 ((ANSWER R)) ((HAVE X (B)) (CAT Y) (HAVE X Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (10 ((ANSWER R)) ((HOWL V) (HAVE (JOHN) V)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (11 ((ANSWER R)) ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (12 ((ANSWER R)) ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (13 ((ANSWER R)) ((HOWL (B)) (LS (JOHN))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (14 ((ANSWER R)) ((CAT (A)) (HAVE (JOHN) (B))))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (15 ((HOUND (A)) (ANSWER R))
                        ((HAVE X (A)) (HAVE X (B))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (16 ((ANSWER R)) ((HAVE (JOHN) Y) (CAT Y)))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (17 ((ANSWER R)) ((CAT (B))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (18 ((ANSWER R)) ((HOUND V) (HAVE (JOHN) V)))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (19 ((ANSWER R)) ((HOWL (A))))
```

```
NEW RESOLVED CLAUSE  : (136 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
                         (MOUSE Z) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (137 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
                         (MOUSE Z) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (138 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
                         (MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE  : (139 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
                         (MOUSE (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (140 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (141 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (CAT (B))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (142 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE  : (143 ((ANSWER R))
                        ((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
                         (HAVE (JOHN) (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (144 ((ANSWER R))
                        ((HAVE W (A)) (LS W) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (145 ((HOWL (A)) (ANSWER R)) NIL)
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE  : (146 ((HOWL (A)) (ANSWER R))
                        ((LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 50
NEW RESOLVED CLAUSE  : (147 ((HOUND (A)) (ANSWER R)) ((LS (JOHN))))
RESOLVING CLAUSE 1  : 50
RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (148 ((ANSWER R)) NIL)
ANSWER TO QUERY IS : R
NIL
```

Gets resolved in the 148th clause.

2. Drug dealer and customs official (rr)

```
* (two-pointer *rr* 7)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (9 ((RR (A)) (ANSWER P)) NIL)
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (10 ((CHASE (B) (A)) (ANSWER P)) NIL)
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (11 ((ANSWER P)) ((SMART U) (CATCH (B) U) (RR U)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (12 ((CATCH (B) T) (FRUSTRATED (B)) (ANSWER P))
                        ((CHASE (B) T) (RR T)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (13 ((CATCH (B) T) (ANSWER P))
                        ((CHASE (B) T) (RR T) (COYOTE (B))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (14 ((SMART (A)) (ANSWER P)) ((BEEP (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (15 ((ANSWER P)) ((SMART (A)) (CATCH W (A)) (COYOTE W)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (16 ((CATCH S (A)) (FRUSTRATED S) (ANSWER P))
                        ((CHASE S (A)) (COYOTE S)))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (17 ((BEEP (A)) (ANSWER P)) NIL)
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (18 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P))
                        ((RR (A)) (COYOTE (B))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (19 ((ANSWER P))
                        ((CATCH (B) (A)) (SMART (A)) (COYOTE Y)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (20 ((ANSWER P)) ((BEEP U) (CATCH (B) U) (RR U)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (21 ((FRUSTRATED (B)) (ANSWER P))
                        ((CHASE (B) U) (COYOTE (B)) (SMART U) (RR U)))
 RESOLVING CLAUSE 1 : 9
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (22 ((ANSWER P)) ((CATCH (B) (A)) (SMART (A))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (23 ((ANSWER P) (FRUSTRATED (B)) (CATCH (B) (A)))
                        ((COYOTE Y) (CHASE (B) (A))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (24 ((ANSWER P) (FRUSTRATED (B)))
                        ((SMART T) (COYOTE (B)) (CHASE (B) T) (RR T)))
 RESOLVING CLAUSE 1 : 8
```

```
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (206 ((FRUSTRATED S) (ANSWER P)) ((COYOTE S)))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (207 ((FRUSTRATED S) (ANSWER P))
                        ((COYOTE Y) (COYOTE S)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 118
NEW RESOLVED CLAUSE  : (208 ((ANSWER P) (FRUSTRATED S))
                        ((COYOTE S) (BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (209 ((ANSWER P) (FRUSTRATED S))
                        ((COYOTE Y) (CHASE S (A)) (COYOTE S) (RR (A))
                         (BEEP (A))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (210 ((FRUSTRATED S) (ANSWER P))
                        ((COYOTE Y) (CHASE S (A)) (COYOTE S) (BEEP (A))))
RESOLVING CLAUSE 1 : 66
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE  : (211 ((ANSWER P)) ((CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 67
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE  : (212 ((FRUSTRATED (B)) (ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 71
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE  : (213 ((ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 77
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE  : (214 ((FRUSTRATED (B)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (215 ((ANSWER P)) ((SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 51
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (216 ((ANSWER P)) ((BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 125
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE  : (217 ((ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE  : (218 ((ANSWER P)) ((SMART (A))))
RESOLVING CLAUSE 1 : 56
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE  : (219 ((ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE 1  : 160
RESOLVING CLAUSE 2 : 126
LAST CLAUSE : (220 ((ANSWER P)) NIL)
ANSWER TO QUERY IS : P
NIL
```

Gets resolved in the 220th clause.

3. Coyote and roadrunner (customs)

```
* (two-pointer *customs* 7)

RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (8 ((V Y) (ANSWER D)) ((E Y) (D (F Y))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (9 ((ANSWER D)) ((C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (10 ((ANSWER D)) ((S (A) R) (C R)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (11 ((ANSWER D) (V (A))) ((D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (12 ((ANSWER D) (V Y)) ((S (A) (F Y)) (E Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (13 ((ANSWER D)) ((D (F Y)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (14 ((V Y) (ANSWER D)) ((E Y) (C (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (15 ((V (A)) (ANSWER D)) ((E (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (16 ((V (A)) (ANSWER D)) ((S (A) (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (17 ((ANSWER D)) ((D (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (18 ((ANSWER D) (V (A))) ((E (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (19 ((ANSWER D)) ((E Y) (S (A) (F Y)) (D Y)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (20 ((ANSWER D)) ((E (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (21 ((ANSWER D)) ((E Y) (D (F Y)) (S (A) Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (22 ((ANSWER D) (V (A))) ((C (A))))
```

```
NEW RESOLVED CLAUSE  : (55 ((V (A)) (ANSWER D)) ((C (A)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (56 ((ANSWER D)) ((S (A) (A)) (C (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (57 ((ANSWER D) (V (A))) ((C (A)) (D (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (58 ((ANSWER D) (V (A))) ((E (A)) (C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (59 ((ANSWER D) (V Y)) ((E Y) (C (A)) (S (A) Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 38
NEW RESOLVED CLAUSE  : (60 ((V Y) (ANSWER D)) ((C (A)) (E (A)) (E Y)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (61 ((V (A)) (ANSWER D)) ((C (A)) (E (F (A))) (E (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (62 ((ANSWER D)) ((C (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (63 ((ANSWER D)) ((S (A) (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE  : (64 ((V X) (ANSWER D))
                        ((S (A) (A)) (C (F (A))) (E (A)) (E X)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 44
NEW RESOLVED CLAUSE  : (65 ((V X) (ANSWER D))
                        ((S (A) (F (A))) (S (A) (A)) (E X)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (66 ((ANSWER D) (V (A))) ((S (A) (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (67 ((ANSWER D)) ((E X) (S (A) (A)) (D (F (A))) (D X)))
RESOLVING CLAUSE 1  : 46
RESOLVING CLAUSE 2 : 4
LAST CLAUSE : (68 ((ANSWER D)) NIL)
ANSWER TO QUERY IS : D
NIL
```

Theorem gets resolved in the 68th clause.

4. Harmonia

```
* (two-pointer *Harmoniaexp* 7)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 7
 NEW RESOLVED CLAUSE  : (8 ((ANSWER X)) ((PARENT Z (HARMONIA)) (PARENT X Z)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (9 ((ANSWER Z)) ((MOTHER Z (HARMONIA)) (PARENT Z Z)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (10 ((ANSWER X)) ((MOTHER X Z) (PARENT Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (11 ((ANSWER Z)) ((FATHER Z (HARMONIA)) (PARENT Z Z)))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 8
 NEW RESOLVED CLAUSE  : (12 ((ANSWER X)) ((FATHER X Z) (PARENT Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (13 ((ANSWER Z)) ((MOTHER Z Z) (MOTHER Z (HARMONIA))))
 NEW RESOLVED CLAUSE  : (12 ((ANSWER X)) ((FATHER X Z) (PARENT Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (13 ((ANSWER Z)) ((MOTHER Z Z) (MOTHER Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (14 ((ANSWER Z)) ((FATHER Z Z) (MOTHER Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (15 ((ANSWER Z)) ((FATHER Z (HARMONIA)) (MOTHER Z Z)))
 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (16 ((ANSWER (HERA))) ((PARENT (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (17 ((ANSWER Z)) ((FATHER Z Z) (FATHER Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (18 ((ANSWER (ARES))) ((PARENT (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (19 ((ANSWER (ZEUS))) ((PARENT (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (20 ((ANSWER (ARES))) ((PARENT (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 15
 NEW RESOLVED CLAUSE  : (21 ((ANSWER (ARES))) ((MOTHER (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 16
 NEW RESOLVED CLAUSE  : (22 ((ANSWER (HERA))) ((MOTHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 16
 NEW RESOLVED CLAUSE  : (23 ((ANSWER (HERA))) ((FATHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 17
 NEW RESOLVED CLAUSE  : (24 ((ANSWER (ARES))) ((FATHER (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 19
 NEW RESOLVED CLAUSE  : (25 ((ANSWER (ZEUS))) ((MOTHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 19
 NEW RESOLVED CLAUSE  : (26 ((ANSWER (ZEUS))) ((FATHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (27 ((ANSWER (ARES))) ((MOTHER (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (28 ((ANSWER (ARES))) ((FATHER (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1  : 23
 RESOLVING CLAUSE 2 : 6
 LAST CLAUSE : (29 ((ANSWER (HERA))) NIL)
 ANSWER TO QUERY IS : (HERA)
NIL
```

We get **HERA** as an answer to the Question in the 29th clause.

5. Own Example

```
* (two-pointer *cae1* 9)

 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (10 ((LOYAL X (CAESAR)) (ANSWER X)) ((ROMAN X)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (11 ((ANSWER (MARCUS)) (LOYAL (MARCUS) (CAESAR))) NIL)
 RESOLVING CLAUSE 1 : 7
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (12 ((ANSWER X))
                         ((TA X (CAESAR)) (RULER (CAESAR)) (PERSON X)
                          (ROMAN X)))
 RESOLVING CLAUSE 1 : 7
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (13 ((ANSWER (MARCUS)))
                         ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                          (PERSON (MARCUS))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (14 ((ANSWER X))
                         ((ROMAN X) (RULER (CAESAR)) (TA X (CAESAR)) (MAN X)))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (15 ((ANSWER X)) ((ROMAN X) (PERSON X) (TA X (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (16 ((ANSWER (MARCUS)))
                         ((ROMAN (MARCUS)) (PERSON (MARCUS)) (RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 13
 NEW RESOLVED CLAUSE  : (17 ((ANSWER (MARCUS)))
                         ((RULER (CAESAR)) (TA (MARCUS) (CAESAR))
                          (MAN (MARCUS))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 13
 NEW RESOLVED CLAUSE  : (18 ((ANSWER (MARCUS)))
                         ((PERSON (MARCUS)) (TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 13
 NEW RESOLVED CLAUSE  : (19 ((ANSWER (MARCUS)))
                         ((PERSON (MARCUS)) (RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 14
 NEW RESOLVED CLAUSE  : (20 ((ANSWER (MARCUS)))
                         ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                          (ROMAN (MARCUS))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 14
 NEW RESOLVED CLAUSE  : (21 ((ANSWER X)) ((MAN X) (TA X (CAESAR)) (ROMAN X)))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 14
 NEW RESOLVED CLAUSE  : (22 ((ANSWER (MARCUS)))
                         ((MAN (MARCUS)) (RULER (CAESAR)) (ROMAN (MARCUS))))
```

```
                        (ROMAN (MARCUS))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (21 ((ANSWER X)) ((MAN X) (TA X (CAESAR)) (ROMAN X)))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (22 ((ANSWER (MARCUS)))
                        ((MAN (MARCUS)) (RULER (CAESAR)) (ROMAN (MARCUS))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (23 ((ANSWER (MARCUS)))
                        ((PERSON (MARCUS)) (ROMAN (MARCUS))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE  : (24 ((ANSWER (MARCUS)))
                        ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE  : (25 ((ANSWER (MARCUS)))
                        ((MAN (MARCUS)) (TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE  : (26 ((ANSWER (MARCUS)))
                        ((MAN (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (27 ((ANSWER (MARCUS))) ((PERSON (MARCUS))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE  : (28 ((ANSWER (MARCUS)))
                        ((ROMAN (MARCUS)) (TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE  : (29 ((ANSWER (MARCUS)))
                        ((ROMAN (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE  : (30 ((ANSWER (MARCUS)))
                        ((ROMAN (MARCUS)) (MAN (MARCUS))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 24
NEW RESOLVED CLAUSE  : (31 ((ANSWER (MARCUS))) ((TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 24
NEW RESOLVED CLAUSE  : (32 ((ANSWER (MARCUS))) ((RULER (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (33 ((ANSWER (MARCUS))) ((MAN (MARCUS))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (34 ((ANSWER (MARCUS))) ((ROMAN (MARCUS))))
RESOLVING CLAUSE 1  : 31
RESOLVING CLAUSE 2 : 8
LAST CLAUSE : (35 ((ANSWER (MARCUS))) NIL)
ANSWER TO QUERY IS : (MARCUS)
NIL
```

We get **MARCUS** as the answer for Question in the 35th clause.

PART 2: UNIT PREFERENCE STRATEGY METHOD

Unit preference: resolve with clauses with the fewest literals. It prefers resolutions in which at least one clause is a unit clause.

The **Unit - Preference** is run for total of 5 cases in 2 parts:

1. Without adding Answer predicate for False condition
2. With adding Answer predicate for False condition (Question Answering format)

Following are the results obtained for running unit-preference algorithm for all 5 cases:

6. TAKING NIL AS FALSE (WITHOUT QUESTION-ANSWERING FORMAT)

    1. Howling hound (howling)

```
* (unit-preference *howling1*)

 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 3
 NEW RESOLVED CLAUSE : (9 NIL ((HOWL (A)) (LS (JOHN))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (10 NIL ((MOUSE Z) (HAVE (JOHN) Z) (CAT (A))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (11 NIL ((MOUSE (A)) (CAT Y) (HAVE (JOHN) Y)))
 RESOLVING CLAUSE A  : 6
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (12 NIL ((HAVE X (B)) (CAT Y) (HAVE X Y)))
 RESOLVING CLAUSE A  : 7
 RESOLVING CLAUSE B  : 3
 NEW RESOLVED CLAUSE : (13 NIL ((HOWL V) (HAVE (JOHN) V)))
 RESOLVING CLAUSE A  : 8
 RESOLVING CLAUSE B  : 3
 NEW RESOLVED CLAUSE : (14 NIL ((HOWL (B)) (LS (JOHN))))
 RESOLVING CLAUSE A  : 8
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (15 NIL ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
 RESOLVING CLAUSE A  : 8
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (16 NIL ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 13
 NEW RESOLVED CLAUSE : (17 NIL ((HOWL (A))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 10
 NEW RESOLVED CLAUSE : (18 NIL ((CAT (A)) (MOUSE (A))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 12
 NEW RESOLVED CLAUSE : (19 ((HAVE (JOHN) (A))) ((HAVE X Y) (CAT Y)))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 12
 NEW RESOLVED CLAUSE : (20 NIL ((CAT (A)) (HAVE (JOHN) (B))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 15
 NEW RESOLVED CLAUSE : (21 NIL ((CAT (B)) (MOUSE (A))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 16
 NEW RESOLVED CLAUSE : (22 NIL ((CAT (A)) (MOUSE (B))))
 RESOLVING CLAUSE A  : 6
 RESOLVING CLAUSE B  : 11
 NEW RESOLVED CLAUSE : (23 ((MOUSE (B))) ((HAVE (JOHN) Y) (CAT Y)))
 RESOLVING CLAUSE A  : 6
 RESOLVING CLAUSE B  : 15
 NEW RESOLVED CLAUSE : (24 NIL ((CAT (B)) (HAVE (JOHN) (B))))
 RESOLVING CLAUSE A  : 6
 RESOLVING CLAUSE B  : 16
 NEW RESOLVED CLAUSE : (25 NIL ((HAVE (JOHN) Y) (CAT Y)))
 RESOLVING CLAUSE A  : 7
 RESOLVING CLAUSE B  : 14
 NEW RESOLVED CLAUSE : (26 NIL ((HOWL (B))))
 RESOLVING CLAUSE A  : 8
 RESOLVING CLAUSE B  : 12
 NEW RESOLVED CLAUSE : (27 NIL ((CAT (B))))
 RESOLVING CLAUSE A  : 8
 RESOLVING CLAUSE B  : 15
 NEW RESOLVED CLAUSE : (28 NIL ((CAT (B)) (MOUSE (B))))
```

```
NEW RESOLVED CLAUSE : (29 ((HAVE (JOHN) (A))) ((CAT (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (30 ((HAVE (JOHN) (A))) ((CAT (B))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 25
NEW RESOLVED CLAUSE : (31 NIL ((CAT (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (32 ((MOUSE (B))) ((CAT (A))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 21
NEW RESOLVED CLAUSE : (33 ((MOUSE (B))) ((CAT (B))))
RESOLVING CLAUSE C  : 17
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (34 NIL ((HOUND (A))))
RESOLVING CLAUSE C  : 26
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (35 NIL ((HOUND (B))))
RESOLVING CLAUSE C  : 27
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (36 ((HOUND (A))) ((CAT (B))))
RESOLVING CLAUSE C  : 31
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (37 ((HOUND (A))) NIL)
RESOLVING CLAUSE C  : 34
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (38 ((CAT (A))) NIL)
RESOLVING CLAUSE C  : 35
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (39 ((CAT (A))) ((HOUND (B))))
RESOLVING CLAUSE C  : 35
RESOLVING CLAUSE D  : 36
NEW RESOLVED CLAUSE : (40 NIL ((HOUND (B)) (CAT (B))))
RESOLVING CLAUSE 1  : 31
RESOLVING CLAUSE 2 : 38
LAST CLAUSE : (41 NIL NIL)
(41 NIL NIL)
```

Gets resolved in 41st clause.

2. Drug dealer and customs official (rr)

```
* (unit-preference *rr1*)

RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (9 ((RR (A))) NIL)
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (10 ((CHASE (B) (A))) NIL)
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (11 NIL ((SMART U) (CATCH (B) U) (RR U)))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (12 ((CATCH (B) T) (FRUSTRATED (B)))
                      ((CHASE (B) T) (RR T)))
RESOLVING CLAUSE C  : 8
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (13 ((CATCH (B) T)) ((CHASE (B) T) (RR T) (COYOTE (B))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (14 ((CATCH (B) T)) ((RR T) (CHASE (B) T)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 6
NEW RESOLVED CLAUSE : (15 ((BEEP (A))) NIL)
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (16 ((SMART (A))) ((BEEP (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (17 NIL ((CATCH (B) (A)) (SMART (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (18 NIL ((SMART (A)) (CATCH W (A)) (COYOTE W)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (19 ((FRUSTRATED (B)) (CATCH (B) (A))) ((CHASE (B) (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (20 ((CATCH (B) (A))) ((COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (21 ((CATCH S (A)) (FRUSTRATED S))
                      ((CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (22 ((FRUSTRATED (B)) (CATCH (B) (A))) ((RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (23 ((CATCH (B) (A))) ((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (24 ((CATCH (B) (A)) (FRUSTRATED (B)))
                      ((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (25 ((CATCH (B) (A))) ((CHASE (B) (A))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (26 ((CATCH (B) (A))) ((RR (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (27 ((CATCH (B) (A)) (FRUSTRATED (B))) NIL)
RESOLVING CLAUSE A  : 9
```

```
                      ((CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (22 ((FRUSTRATED (B)) (CATCH (B) (A))) ((RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (23 ((CATCH (B) (A))) ((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (24 ((CATCH (B) (A)) (FRUSTRATED (B)))
                      ((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (25 ((CATCH (B) (A))) ((CHASE (B) (A))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (26 ((CATCH (B) (A))) ((RR (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (27 ((CATCH (B) (A)) (FRUSTRATED (B))) NIL)
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (28 ((CATCH (B) (A))) ((COYOTE (B))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (29 ((FRUSTRATED (B)) (CATCH (B) (A))) ((COYOTE (B))))
RESOLVING CLAUSE A  : 15
RESOLVING CLAUSE B  : 16
NEW RESOLVED CLAUSE : (30 ((SMART (A))) NIL)
RESOLVING CLAUSE A  : 15
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (31 ((SMART (A))) ((RR (A))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 28
NEW RESOLVED CLAUSE : (32 ((CATCH (B) (A))) NIL)
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 17
NEW RESOLVED CLAUSE : (33 NIL ((CATCH (B) (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (34 NIL ((RR (A)) (CATCH (B) (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 18
NEW RESOLVED CLAUSE : (35 NIL ((COYOTE W) (CATCH W (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (36 NIL ((CATCH W (A)) (RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1  : 32
RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (37 NIL NIL)
(37 NIL NIL)
```

Gets resolved in the 37th step.

3. Coyote and roadrunner (customs)

```
* (unit-preference *customs1*)

 RESOLVING CLAUSE A  : 3
 RESOLVING CLAUSE B  : 1
 NEW RESOLVED CLAUSE : (8 ((S (A) (F (A))) (V (A))) NIL)
 RESOLVING CLAUSE A  : 3
 RESOLVING CLAUSE B  : 2
 NEW RESOLVED CLAUSE : (9 ((C (F (A))) (V (A))) NIL)
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 6
 NEW RESOLVED CLAUSE : (10 NIL ((V (A))))
 RESOLVING CLAUSE A  : 4
 RESOLVING CLAUSE B  : 7
 NEW RESOLVED CLAUSE : (11 NIL ((C (A))))
 RESOLVING CLAUSE C  : 10
 RESOLVING CLAUSE D  : 8
 NEW RESOLVED CLAUSE : (12 ((S (A) (F (A)))) NIL)
 RESOLVING CLAUSE C  : 10
 RESOLVING CLAUSE D  : 9
 NEW RESOLVED CLAUSE : (13 ((C (F (A)))) NIL)
 RESOLVING CLAUSE C  : 10
 RESOLVING CLAUSE D  : 1
 NEW RESOLVED CLAUSE : (14 ((S (A) (F (A)))) ((E (A))))
 RESOLVING CLAUSE C  : 10
 RESOLVING CLAUSE D  : 2
 NEW RESOLVED CLAUSE : (15 ((C (F (A)))) ((E (A))))
 RESOLVING CLAUSE C  : 11
 RESOLVING CLAUSE D  : 9
 NEW RESOLVED CLAUSE : (16 ((V (A))) ((C (A))))
 RESOLVING CLAUSE C  : 11
 RESOLVING CLAUSE D  : 2
 NEW RESOLVED CLAUSE : (17 ((V Y)) ((C (A)) (E Y)))
 RESOLVING CLAUSE C  : 10
 RESOLVING CLAUSE D  : 17
 NEW RESOLVED CLAUSE : (18 NIL ((E (A)) (C (A))))
 RESOLVING CLAUSE A  : 12
 RESOLVING CLAUSE B  : 5
 NEW RESOLVED CLAUSE : (19 ((D (F (A)))) NIL)
 RESOLVING CLAUSE A  : 13
 RESOLVING CLAUSE B  : 7
 NEW RESOLVED CLAUSE : (20 NIL ((D (F (A)))))
 RESOLVING CLAUSE A  : 13
 RESOLVING CLAUSE B  : 17
 NEW RESOLVED CLAUSE : (21 ((V Y) (C (F (A)))) ((E Y)))
 RESOLVING CLAUSE 1  : 19
 RESOLVING CLAUSE 2 : 20
 LAST CLAUSE : (22 NIL NIL)
(22 NIL NIL)
*
```

Gets resolved in the 22nd clause.

7. TAKING ANSWER PREDICATE AS FALSE (QUESTION-ANSWERING FORMAT)

1. hound (howling)

```
* (unit-preference *howling*)

RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (9 NIL ((HOWL (A)) (LS (JOHN))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (10 NIL ((MOUSE Z) (HAVE (JOHN) Z) (CAT (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (11 NIL ((MOUSE (A)) (CAT Y) (HAVE (JOHN) Y)))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (12 ((ANSWER R)) ((HAVE X (B)) (CAT Y) (HAVE X Y)))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (13 ((ANSWER R)) ((HOWL V) (HAVE (JOHN) V)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (14 ((ANSWER R)) ((HOWL (B)) (LS (JOHN))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (15 ((ANSWER R)) ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (16 ((ANSWER R)) ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (17 ((ANSWER R)) ((HOWL (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 10
NEW RESOLVED CLAUSE : (18 NIL ((CAT (A)) (MOUSE (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (19 ((ANSWER R) (HAVE (JOHN) (A))) ((HAVE X Y) (CAT Y)))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (20 ((ANSWER R)) ((CAT (A)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 15
NEW RESOLVED CLAUSE : (21 ((ANSWER R)) ((CAT (B)) (MOUSE (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 16
NEW RESOLVED CLAUSE : (22 ((ANSWER R)) ((CAT (A)) (MOUSE (B))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (23 ((MOUSE (B)) (ANSWER R)) ((HAVE (JOHN) Y) (CAT Y)))
```

```
NEW RESOLVED CLAUSE : (28 ((ANSWER R)) ((CAT (B)) (MOUSE (B))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (29 ((ANSWER R) (HAVE (JOHN) (A))) ((CAT (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (30 ((ANSWER R) (HAVE (JOHN) (A))) ((CAT (B))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 25
NEW RESOLVED CLAUSE : (31 ((ANSWER R)) ((CAT (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (32 ((ANSWER R) (MOUSE (B))) ((CAT (A))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 21
NEW RESOLVED CLAUSE : (33 ((MOUSE (B)) (ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE C  : 17
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (34 ((ANSWER R)) ((HOUND (A))))
RESOLVING CLAUSE C  : 26
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (35 ((ANSWER R)) ((HOUND (B))))
RESOLVING CLAUSE C  : 27
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (36 ((ANSWER R) (HOUND (A))) ((CAT (B))))
RESOLVING CLAUSE C  : 31
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (37 ((ANSWER R) (HOUND (A))) NIL)
RESOLVING CLAUSE C  : 34
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (38 ((ANSWER R) (CAT (A))) NIL)
RESOLVING CLAUSE C  : 35
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (39 ((ANSWER R) (CAT (A))) ((HOUND (B))))
RESOLVING CLAUSE C  : 35
RESOLVING CLAUSE D  : 36
NEW RESOLVED CLAUSE : (40 ((ANSWER R)) ((HOUND (B)) (CAT (B))))
RESOLVING CLAUSE 1  : 31
RESOLVING CLAUSE 2 : 38
LAST CLAUSE : (41 ((ANSWER R)) NIL)
ANSWER TO QUERY IS : R
NIL
```

Theorem gets resolved at 41st step.

2. Drug dealer and customs official (rr)

```
* (unit-preference *rr*)

RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (9 ((RR (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (10 ((CHASE (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (11 ((ANSWER P)) ((SMART U) (CATCH (B) U) (RR U)))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (12 ((CATCH (B) T) (FRUSTRATED (B)) (ANSWER P))
                      ((CHASE (B) T) (RR T)))
RESOLVING CLAUSE C  : 8
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (13 ((ANSWER P) (CATCH (B) T))
                      ((CHASE (B) T) (RR T) (COYOTE (B))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (14 ((CATCH (B) T) (ANSWER P)) ((RR T) (CHASE (B) T)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 6
NEW RESOLVED CLAUSE : (15 ((BEEP (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (16 ((SMART (A)) (ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (17 ((ANSWER P)) ((CATCH (B) (A)) (SMART (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (18 ((ANSWER P)) ((SMART (A)) (CATCH W (A)) (COYOTE W)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (19 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
                      ((CHASE (B) (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (20 ((CATCH (B) (A)) (ANSWER P))
                      ((COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (21 ((CATCH S (A)) (FRUSTRATED S) (ANSWER P))
                      ((CHASE S (A)) (COYOTE S)))
```

```
NEW RESOLVED CLAUSE : (21 ((CATCH S (A)) (FRUSTRATED S) (ANSWER P))
                      ((CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (22 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
                      ((RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (23 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (24 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P))
                      ((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (25 ((CATCH (B) (A)) (ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (26 ((CATCH (B) (A)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (27 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (28 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE (B))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (29 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
                      ((COYOTE (B))))
RESOLVING CLAUSE A  : 15
RESOLVING CLAUSE B  : 16
NEW RESOLVED CLAUSE : (30 ((SMART (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 15
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (31 ((SMART (A)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE A  : 7
RESOLVING CLAUSE B  : 28
NEW RESOLVED CLAUSE : (32 ((CATCH (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 17
NEW RESOLVED CLAUSE : (33 ((ANSWER P)) ((CATCH (B) (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (34 ((ANSWER P)) ((RR (A)) (CATCH (B) (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 18
NEW RESOLVED CLAUSE : (35 ((ANSWER P)) ((COYOTE W) (CATCH W (A))))
RESOLVING CLAUSE A  : 30
RESOLVING CLAUSE B  : 4
NEW RESOLVED CLAUSE : (36 ((ANSWER P)) ((CATCH W (A)) (RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1  : 32
RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (37 ((ANSWER P)) NIL)
ANSWER TO QUERY IS : P
NIL
```

Theorem gets resolved at 37th step.

3. Coyote and roadrunner (customs)

```
* (unit-preference *customs*)

RESOLVING CLAUSE A  : 3
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (8 ((S (A) (F (A))) (V (A))) NIL)
RESOLVING CLAUSE A  : 3
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (9 ((C (F (A))) (V (A))) NIL)
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 6
NEW RESOLVED CLAUSE : (10 ((ANSWER D)) ((V (A))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (11 ((ANSWER D)) ((C (A))))
RESOLVING CLAUSE C  : 10
RESOLVING CLAUSE D  : 8
NEW RESOLVED CLAUSE : (12 ((ANSWER D) (S (A) (F (A)))) NIL)
RESOLVING CLAUSE C  : 10
RESOLVING CLAUSE D  : 9
NEW RESOLVED CLAUSE : (13 ((ANSWER D) (C (F (A)))) NIL)
RESOLVING CLAUSE C  : 10
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (14 ((ANSWER D) (S (A) (F (A)))) ((E (A))))
RESOLVING CLAUSE C  : 10
RESOLVING CLAUSE D  : 2
NEW RESOLVED CLAUSE : (15 ((ANSWER D) (C (F (A)))) ((E (A))))
RESOLVING CLAUSE C  : 11
RESOLVING CLAUSE D  : 9
NEW RESOLVED CLAUSE : (16 ((ANSWER D) (V (A))) ((C (A))))
RESOLVING CLAUSE C  : 11
RESOLVING CLAUSE D  : 2
NEW RESOLVED CLAUSE : (17 ((ANSWER D) (V Y)) ((C (A)) (E Y)))
RESOLVING CLAUSE C  : 10
RESOLVING CLAUSE D  : 17
NEW RESOLVED CLAUSE : (18 ((ANSWER D)) ((E (A)) (C (A))))
RESOLVING CLAUSE A  : 12
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (19 ((D (F (A))) (ANSWER D)) NIL)
RESOLVING CLAUSE A  : 13
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (20 ((ANSWER D)) ((D (F (A)))))
RESOLVING CLAUSE A  : 13
RESOLVING CLAUSE B  : 16
NEW RESOLVED CLAUSE : (21 ((V (A)) (ANSWER D) (C (F (A)))) NIL)
RESOLVING CLAUSE A  : 13
RESOLVING CLAUSE B  : 17
NEW RESOLVED CLAUSE : (22 ((V Y) (ANSWER D) (C (F (A)))) ((E Y)))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (23 ((ANSWER D) (D (A))) NIL)
RESOLVING CLAUSE 1  : 19
RESOLVING CLAUSE 2 : 20
LAST CLAUSE : (24 ((ANSWER D)) NIL)
ANSWER TO QUERY IS : D
NIL
```

Theorem gets resolved at 24th step.

4. Harmonia

```
* (unit-preference *Harmoniaexp*)

RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (8 ((PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE A  : 5
RESOLVING CLAUSE B  : 2
NEW RESOLVED CLAUSE : (9 ((PARENT (HERA) (ARES))) NIL)
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (10 ((PARENT (ARES) (HARMONIA))) NIL)
RESOLVING CLAUSE C  : 7
RESOLVING CLAUSE D  : 1
NEW RESOLVED CLAUSE : (11 ((ANSWER X)) ((PARENT Z (HARMONIA)) (PARENT X Z)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (12 ((ANSWER X) (PARENT (ZEUS) (ARES))) ((PARENT X Z)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (13 ((ANSWER (ZEUS))) ((PARENT (ARES) (HARMONIA))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (13 ((ANSWER (ZEUS))) ((PARENT (ARES) (HARMONIA))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (14 ((GRANDPARENT (ZEUS) Y)) ((PARENT (ARES) Y)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (15 ((GRANDPARENT X (ARES))) ((PARENT X (ZEUS))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (16 ((ANSWER X) (PARENT (HERA) (ARES))) ((PARENT X Z)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (17 ((ANSWER (HERA))) ((PARENT (ARES) (HARMONIA))))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (18 ((GRANDPARENT (HERA) Y)) ((PARENT (ARES) Y)))
RESOLVING CLAUSE A  : 9
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (19 ((GRANDPARENT X (ARES))) ((PARENT X (HERA))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (20 ((ANSWER X)) ((PARENT X (ARES))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 11
NEW RESOLVED CLAUSE : (21 ((ANSWER (ARES))) ((PARENT (HARMONIA) (HARMONIA))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (22 ((GRANDPARENT (ARES) Y)) ((PARENT (HARMONIA) Y)))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (23 ((GRANDPARENT X (HARMONIA))) ((PARENT X (ARES))))
RESOLVING CLAUSE C  : 7
RESOLVING CLAUSE D  : 15
NEW RESOLVED CLAUSE : (24 ((ANSWER X))
                      ((GRANDPARENT X (HARMONIA)) (PARENT X (ZEUS))))
RESOLVING CLAUSE C  : 7
RESOLVING CLAUSE D  : 19
NEW RESOLVED CLAUSE : (25 ((ANSWER X))
                      ((GRANDPARENT X (HARMONIA)) (PARENT X (HERA))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (26 ((ANSWER (ZEUS)) (PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 17
NEW RESOLVED CLAUSE : (27 ((ANSWER (HERA)) (PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE 1  : 8
RESOLVING CLAUSE 2 : 20
LAST CLAUSE : (28 ((ANSWER (ZEUS))) NIL)
ANSWER TO QUERY IS : (ZEUS)
NIL
```

We get **ZEUS** as the answer for Question in the 28th clause.

5. Own Example

```
* (unit-preference *cae1*)

RESOLVING CLAUSE A  : 1
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (10 ((PERSON (MARCUS))) NIL)
RESOLVING CLAUSE A  : 2
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (11 ((HATE (MARCUS) (CAESAR)) (LOYAL (MARCUS) (CAESAR)))
                      NIL)
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (12 NIL ((LOYAL X (CAESAR)) (TA X (CAESAR)) (PERSON X)))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (13 NIL ((TA X (F X)) (RULER (F X)) (PERSON X)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (14 NIL
                       ((LOYAL (MARCUS) (CAESAR)) (RULER (CAESAR))
                        (PERSON (MARCUS))))
RESOLVING CLAUSE C  : 9
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (15 ((ANSWER X) (LOYAL X (CAESAR))) ((ROMAN X)))
RESOLVING CLAUSE A  : 2
RESOLVING CLAUSE B  : 15
NEW RESOLVED CLAUSE : (16 ((LOYAL (MARCUS) (CAESAR)) (ANSWER (MARCUS))) NIL)
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (17 ((RULER (CAESAR))) ((PERSON X) (TA X (F X))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (18 NIL ((PERSON (MARCUS)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (19 ((LOYAL X (F X))) ((PERSON X) (TA X (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (20 ((LOYAL X (F X)))
                       ((PERSON (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (21 ((TA (MARCUS) (CAESAR))) ((PERSON X) (RULER (F X))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (22 NIL
                       ((TA (MARCUS) (CAESAR)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (23 NIL
                       ((RULER (F (MARCUS))) (TA (MARCUS) (F (MARCUS)))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (24 NIL ((RULER (CAESAR)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (25 NIL ((LOYAL (MARCUS) Y) (TA (MARCUS) Y) (RULER Y)))
RESOLVING CLAUSE A  : 4
```

```
RESOLVING CLAUSE B  : 21
NEW RESOLVED CLAUSE : (29 ((TA (MARCUS) (CAESAR)) (RULER (CAESAR)))
                       ((PERSON X)))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (30 ((LOYAL X (F X))) ((TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (31 ((LOYAL X (F X))) ((RULER (CAESAR))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (32 ((TA (MARCUS) (CAESAR))) ((RULER (F (MARCUS)))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 19
NEW RESOLVED CLAUSE : (33 ((LOYAL (MARCUS) (F (MARCUS)))) ((PERSON (MARCUS))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 19
NEW RESOLVED CLAUSE : (34 ((LOYAL (MARCUS) (F (MARCUS))))
                       ((TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 18
NEW RESOLVED CLAUSE : (35 ((ANSWER (MARCUS))) ((PERSON (MARCUS))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (36 ((ANSWER (MARCUS))) ((TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (37 ((ANSWER (MARCUS))) ((RULER (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (38 ((ANSWER (MARCUS)))
                       ((PERSON (MARCUS)) (TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (39 ((ANSWER (MARCUS)))
                       ((PERSON (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 25
NEW RESOLVED CLAUSE : (40 ((ANSWER (MARCUS)))
                       ((RULER (CAESAR)) (TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 16
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (41 ((ANSWER (MARCUS)))
                       ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                        (PERSON (MARCUS))))
RESOLVING CLAUSE 1  : 4
RESOLVING CLAUSE 2 : 37
LAST CLAUSE : (42 ((ANSWER (MARCUS))) NIL)
ANSWER TO QUERY IS : (MARCUS)
NIL
```

We get **MARCUS** as the answer for Question in the 42nd clause.

BASIC (OWN EXAMPLE 2)

```
* (two-pointer *basic* 5)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 5
 NEW RESOLVED CLAUSE  : (6 ((ANSWER G)) ((HOWL X)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (7 ((HAVE Z) (ANSWER G)) NIL)
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (8 ((ANSWER G)) ((HOUND K)))
 RESOLVING CLAUSE 1  : 7
 RESOLVING CLAUSE 2 : 3
 LAST CLAUSE : (9 ((ANSWER G)) NIL)
 ANSWER TO QUERY IS : G
NIL
* (two-pointer *basic1* 5)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 5
 NEW RESOLVED CLAUSE  : (6 NIL ((HOWL X)))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (7 ((HAVE Z)) NIL)
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 6
 NEW RESOLVED CLAUSE  : (8 NIL ((HOUND K)))
 RESOLVING CLAUSE 1  : 7
 RESOLVING CLAUSE 2 : 3
 LAST CLAUSE : (9 NIL NIL)
 THEOREM IS RESOLVED TO - : NIL
NIL
* (unit-preference *basic1*)

 RESOLVING CLAUSE C  : 3
 RESOLVING CLAUSE D  : 2
 NEW RESOLVED CLAUSE : (6 ((HOWL (A))) NIL)
 RESOLVING CLAUSE C  : 5
 RESOLVING CLAUSE D  : 1
 NEW RESOLVED CLAUSE : (7 NIL ((HOWL X)))
 RESOLVING CLAUSE 1  : 6
 RESOLVING CLAUSE 2 : 7
 LAST CLAUSE : (8 NIL NIL)
 THEOREM IS RESOLVED TO - : NIL
NIL
* (unit-preference *basic*)

 RESOLVING CLAUSE C  : 3
 RESOLVING CLAUSE D  : 2
 NEW RESOLVED CLAUSE : (6 ((HOWL (A))) NIL)
 RESOLVING CLAUSE C  : 5
 RESOLVING CLAUSE D  : 1
 NEW RESOLVED CLAUSE : (7 ((ANSWER G)) ((HOWL X)))
 RESOLVING CLAUSE 1  : 6
 RESOLVING CLAUSE 2 : 7
 LAST CLAUSE : (8 ((ANSWER G)) NIL)
 ANSWER TO QUERY IS : G
NIL
```

TEST RESULTS

Theorems	Two-Pointer	Total Clauses	UnitPreference	Total Clauses
	Without Answer Predicate	With Answer Predicate	Without Answer Predicate	With Answer Predicate
Howling	148	148	41	41
RR	220	220	37	37
Customs	68	68	22	24
Harmonia	-----	29 (Hera) Ans	------	28 (Zeus) Ans
Caesar	------	35 (Marcus) Ans	------	42 (Marcus) Ans
BASIC	9	9	8	8

OBSERVATIONS AND ANALYSIS

Unit-Preference Implementation:

Sorted the list of input clauses based on list length of literals in ascending order. Defined 2 pointes P1 and P2 where P1 points to first clause of unit-clause list and P2 points to second clause of the input list. For every P1, P2 clause is checked for resolution where P2 ends with the end of input list and P1 ends with the end of list having unit length. Every newly generated clause is added to the input list and sorted before processing again.

Post implementation of the above approach, I was not able to resolve all theorems. So I relaxed the P1 constraint for checking up to 2 list length literals. Implementing the same, I obtained the results mentioned in the result table.

Two-Pointer Implementation has been done according to how its mentioned in the assignment pdf.

As can be observed from the Results table, we see that unit-preference algorithm is much more efficient in resolving clauses in comparison to 2-pointer approach as it resolves in fewer number of resolution steps. It's a very efficient algorithm but at times can be incomplete as well. It is efficient because it prioritizes unit literals for checking resolution by sorting the input list first rather than going by the input list. This helps reach nil state faster if resolvable clauses are found early. It follows unit deduction where all derived clauses are unit resolvents (resolvent in which at least one of the parent clauses is a unit clause). Thus, number of steps required to resolve howling reduced from 148 to 41, RR reduced from 220 to 37, customs reduced from 68 to 22, Harmonia reduced from 29 to 28, Basic reduced from 9 to

8. Only deviation we observe is for Caesar example where number of steps increase from 35 to 42. This is probably because of the enhancement done by relaxing the unit constraints to support up to 2 literal length.

RESOLUTION STEPS IN EACH CASE

1. TWO POINTER

1. Howling

```
* (two-pointer *howling* 6)

RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 6
NEW RESOLVED CLAUSE  : (9 ((ANSWER R)) ((HAVE X (B)) (CAT Y) (HAVE X Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (10 ((ANSWER R)) ((HOWL V) (HAVE (JOHN) V)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (11 ((ANSWER R)) ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (12 ((ANSWER R)) ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (13 ((ANSWER R)) ((HOWL (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (14 ((ANSWER R)) ((CAT (A)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (15 ((HOUND (A)) (ANSWER R))
                ((HAVE X (A)) (HAVE X (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (16 ((ANSWER R)) ((HAVE (JOHN) Y) (CAT Y)))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (17 ((ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (18 ((ANSWER R)) ((HOUND V) (HAVE (JOHN) V)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (19 ((ANSWER R)) ((HOWL (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (20 ((ANSWER R)) ((HOWL (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 11
```

```
NEW RESOLVED CLAUSE  : (21 ((ANSWER R)) ((CAT (B)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (22 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) Z) (MOUSE Z)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (23 ((ANSWER R)) ((CAT (B)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (24 ((ANSWER R)) ((CAT (B)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (25 ((ANSWER R)) ((CAT (A)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (26 ((HOUND (A)) (ANSWER R))
                ((HAVE (JOHN) (A)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (27 ((ANSWER R)) ((HOUND (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (28 ((HOUND (A)) (ANSWER R)) ((HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (29 ((ANSWER R)) ((CAT (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (30 ((HOWL (A)) (ANSWER R)) ((HAVE X (B)) (HAVE X (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (31 ((HOUND (A)) (ANSWER R)) ((HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE  : (32 ((HOUND (A)) (ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (33 ((ANSWER R)) ((HOUND (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (34 ((CAT (A)) (ANSWER R)) ((HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (35 ((ANSWER R)) ((HOUND (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (36 ((ANSWER R))
                ((HAVE X (B)) (HAVE X (A)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE  : (37 ((HOUND (A)) (ANSWER R)) ((MOUSE (A)) (CAT (B))))
```

```
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE  : (38 ((HOWL (A)) (ANSWER R))
                ((MOUSE (A)) (HAVE (JOHN) (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE  : (39 ((HOUND (A)) (ANSWER R))
                ((HAVE (JOHN) (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE  : (40 ((HOUND (A)) (ANSWER R)) ((MOUSE (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE  : (41 ((ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))
                 (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (42 ((HOUND (A)) (ANSWER R)) ((MOUSE (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE  : (43 ((HOWL (A)) (ANSWER R))
                ((MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE  : (44 ((ANSWER R)) ((MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (45 ((CAT (A)) (ANSWER R)) ((LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (46 ((ANSWER R))
                ((HAVE X (B)) (HAVE X (A)) (HOUND (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (47 ((ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B)) (HOUND (B))
                 (LS (JOHN))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (48 ((ANSWER R))
                ((MOUSE (B)) (HAVE (JOHN) (A)) (HOUND (B))
                 (LS (JOHN))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (49 ((HOWL (A)) (ANSWER R)) ((HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (50 ((HOUND (A)) (ANSWER R)) NIL)
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (51 ((ANSWER R)) ((HAVE (JOHN) (A)) (HAVE (JOHN) (B))))
```

```
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (52 ((HOUND (A)) (ANSWER R))
                ((LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (53 ((ANSWER R))
                ((HAVE W (A)) (LS W) (HAVE X (B)) (HAVE X (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (54 ((HOWL (A)) (ANSWER R)) ((HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (55 ((HOWL (A)) (ANSWER R))
                ((HAVE X (A)) (HAVE X (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (56 ((ANSWER R)) ((HAVE X (A)) (HAVE X (B))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (57 ((ANSWER R)) ((HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (58 ((HOUND (A)) (ANSWER R))
                ((LS (JOHN)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 32
NEW RESOLVED CLAUSE  : (59 ((HOWL (A)) (ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 32
NEW RESOLVED CLAUSE  : (60 ((ANSWER R)) ((HAVE (JOHN) (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 32
NEW RESOLVED CLAUSE  : (61 ((HOUND (A)) (ANSWER R)) ((LS (JOHN)) (CAT (B))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (62 ((CAT (A)) (ANSWER R)) NIL)
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (63 ((ANSWER R)) ((HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (64 ((ANSWER R))
                ((MOUSE Z) (HAVE X Z) (HAVE X (A)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (65 ((CAT (A)) (ANSWER R))
                ((HAVE (JOHN) Z) (MOUSE Z) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 21
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (66 ((CAT (A)) (ANSWER R))
                ((MOUSE (A)) (HAVE (JOHN) (A))))
```

```
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (67 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 23
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (68 ((CAT (A)) (ANSWER R))
                ((HAVE (JOHN) (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 24
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (69 ((CAT (A)) (ANSWER R))
                ((MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (70 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (71 ((CAT (A)) (ANSWER R)) ((HOUND (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (72 ((ANSWER R))
                ((HAVE X (B)) (HAVE X (A)) (HOUND (B))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (73 ((ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B)) (HOUND (B))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (74 ((ANSWER R))
                ((MOUSE (B)) (HAVE (JOHN) (A)) (HOUND (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (75 ((ANSWER R)) ((HAVE (JOHN) (B)) (HOUND (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (76 ((ANSWER R)) ((HAVE (JOHN) (A)) (HOUND (B))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (77 ((ANSWER R)) ((CAT (B)) (HOUND (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (78 ((HOWL (A)) (ANSWER R)) ((CAT (B)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (79 ((ANSWER R))
                ((CAT (B)) (MOUSE (A)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (80 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (A)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 34
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RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (81 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (A)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 38
NEW RESOLVED CLAUSE  : (82 ((ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (A)) (MOUSE (A)) (LS W)
                 (HAVE W (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 38
NEW RESOLVED CLAUSE  : (83 ((ANSWER R) (HOWL (A)) (HOUND (A)))
                ((CAT (B)) (HAVE (JOHN) (A)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 38
NEW RESOLVED CLAUSE  : (84 ((HOWL (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (A)) (MOUSE (A)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (85 ((HOWL (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (86 ((ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (87 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (88 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (89 ((HOWL (A)) (ANSWER R)) ((CAT (B)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (90 ((ANSWER R))
                ((CAT (B)) (MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (91 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (92 ((HOUND (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 41
NEW RESOLVED CLAUSE  : (93 ((HOUND (A)) (ANSWER R))
                ((HAVE (JOHN) (A)) (CAT (B)) (HAVE (JOHN) Z)
                 (MOUSE Z)))
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RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE  : (94 ((HOWL (A)) (ANSWER R)) ((MOUSE (B))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE  : (95 ((HOUND (A)) (ANSWER R)) ((LS (JOHN)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 33
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE  : (96 ((ANSWER R)) ((MOUSE (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 43
NEW RESOLVED CLAUSE  : (97 ((ANSWER R))
                ((HAVE W (A)) (LS W) (MOUSE (B)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 43
NEW RESOLVED CLAUSE  : (98 ((HOWL (A)) (ANSWER R))
                ((HAVE (JOHN) (A)) (MOUSE (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (99 ((ANSWER R))
                ((MOUSE Z) (HAVE X Z) (HAVE X (A)) (LS (JOHN))
                 (HOUND (B))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (100 ((CAT (A)) (ANSWER R))
                ((HAVE (JOHN) Z) (MOUSE Z) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (101 ((ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (102 ((CAT (A)) (ANSWER R))
                ((HAVE X (B)) (HAVE X (A)) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 16
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (103 ((ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 21
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (104 ((CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (105 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (106 ((CAT (A)) (ANSWER R))
                ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B)) (LS (JOHN))
                 (HOUND (B))))
RESOLVING CLAUSE 1 : 23
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RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (107 ((CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 24
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (108 ((CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 25
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (109 ((ANSWER R)) ((HOUND (B)) (LS (JOHN)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (110 ((CAT (A)) (ANSWER R))
                ((MOUSE (B)) (HAVE (JOHN) (A)) (LS (JOHN))
                 (HOUND (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (111 ((CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (112 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (113 ((CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (CAT (B))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (114 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (115 ((CAT (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (A)) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 38
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (116 ((HOWL (A)) (CAT (A)) (ANSWER R))
                ((HAVE (JOHN) (A)) (MOUSE (A)) (LS (JOHN))
                 (HOUND (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (117 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (118 ((CAT (A)) (ANSWER R))
                ((CAT (B)) (HAVE (JOHN) (B)) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (119 ((HOUND (A)) (CAT (A)) (ANSWER R))
                ((HOUND (B)) (LS (JOHN)) (MOUSE (B))))
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RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (120 ((CAT (A)) (ANSWER R))
                ((CAT (B)) (MOUSE (B)) (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 41
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (121 ((CAT (A)) (ANSWER R))
                ((HAVE (JOHN) (A)) (HAVE (JOHN) Z) (MOUSE Z)
                 (LS (JOHN)) (HOUND (B))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (122 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (CAT (B)) (HAVE (JOHN) Z) (MOUSE Z)))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (123 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (HAVE (JOHN) (A)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (124 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (125 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (126 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (CAT (B))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (127 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (128 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (HAVE (JOHN) (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (129 ((ANSWER R))
                ((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
                 (MOUSE (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 42
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE  : (130 ((ANSWER R))
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((LS (JOHN)) (HOUND (B)) (HAVE X (A)) (HAVE X (B))
(MOUSE (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (131 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (MOUSE (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (132 ((HOUND (A)) (ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
(MOUSE Z)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (133 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (134 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (135 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
(MOUSE Z) (HAVE (JOHN) (A)) (MOUSE (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (136 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
(MOUSE Z) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (137 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (CAT (B)) (HAVE (JOHN) Z)
(MOUSE Z) (HAVE (JOHN) (A))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (138 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
(MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (139 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) Z) (MOUSE Z)
(MOUSE (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE : (140 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
(HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE : (141 ((ANSWER R))

((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
(CAT (B))))
RESOLVING CLAUSE 1 : 37
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE : (142 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
(MOUSE (A)) (CAT (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE : (143 ((ANSWER R))
((LS (JOHN)) (HOUND (B)) (HAVE (JOHN) (A)) (MOUSE (B))
(HAVE (JOHN) (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE : (144 ((ANSWER R))
((HAVE W (A)) (LS W) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE : (145 ((HOWL (A)) (ANSWER R)) NIL)
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE : (146 ((HOWL (A)) (ANSWER R))
((LS (JOHN)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 50
NEW RESOLVED CLAUSE : (147 ((HOUND (A)) (ANSWER R)) ((LS (JOHN))))
RESOLVING CLAUSE 1 : 50
RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (148 ((ANSWER R)) NIL)
ANSWER TO QUERY IS : R
NIL

2. RR

* (two-pointer *rr* 7)

RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (9 ((RR (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (10 ((CHASE (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (11 ((ANSWER P)) ((SMART U) (CATCH (B) U) (RR U)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (12 ((CATCH (B) T) (FRUSTRATED (B)) (ANSWER P))
((CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE : (13 ((CATCH (B) T) (ANSWER P))
((CHASE (B) T) (RR T) (COYOTE (B))))

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RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (14 ((SMART (A)) (ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (15 ((ANSWER P)) ((SMART (A)) (CATCH W (A)) (COYOTE
W)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (16 ((CATCH S (A)) (FRUSTRATED S) (ANSWER P))
          ((CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (17 ((BEEP (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (18 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P))
          ((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (19 ((ANSWER P))
          ((CATCH (B) (A)) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (20 ((ANSWER P)) ((BEEP U) (CATCH (B) U) (RR U)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (21 ((FRUSTRATED (B)) (ANSWER P))
          ((CHASE (B) U) (COYOTE (B)) (SMART U) (RR U)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (22 ((ANSWER P)) ((CATCH (B) (A)) (SMART (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (23 ((ANSWER P) (FRUSTRATED (B)) (CATCH (B) (A)))
          ((COYOTE Y) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (24 ((ANSWER P) (FRUSTRATED (B)))
          ((SMART T) (COYOTE (B)) (CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (25 ((CATCH (B) T) (ANSWER P)) ((RR T) (CHASE (B) T)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (26 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
          ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (27 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
          ((RR (A))))
RESOLVING CLAUSE 1 : 11
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RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (28 ((FRUSTRATED (B)) (ANSWER P))
                ((SMART T) (CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (29 ((ANSWER P) (CATCH (B) (A)))
                ((COYOTE (B)) (CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (30 ((ANSWER P) (CATCH (B) (A)))
                ((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (31 ((ANSWER P))
                ((SMART T) (CHASE (B) T) (RR T) (COYOTE (B))))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (32 ((CATCH (B) (A)) (ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (33 ((ANSWER P))
                ((CATCH W (A)) (RR (A)) (COYOTE W) (BEEP (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (34 ((ANSWER P) (SMART (A))) ((RR (A))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (35 ((ANSWER P)) ((RR (A)) (CATCH (B) (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (36 ((FRUSTRATED W) (ANSWER P))
                ((CHASE W (A)) (RR (A)) (SMART (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 12
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (37 ((FRUSTRATED (B)) (ANSWER P))
                ((RR (A)) (CHASE (B) (A)) (SMART (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (38 ((ANSWER P))
                ((RR (A)) (CHASE (B) (A)) (SMART (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (39 ((ANSWER P)) ((COYOTE W) (CATCH W (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 16
NEW RESOLVED CLAUSE  : (40 ((ANSWER P) (FRUSTRATED S) (CATCH S (A)))
                ((COYOTE S)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 16
NEW RESOLVED CLAUSE  : (41 ((ANSWER P) (FRUSTRATED S))
                ((SMART (A)) (RR (A)) (CHASE S (A)) (COYOTE S)))
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RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 16
NEW RESOLVED CLAUSE  : (42 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
                ((COYOTE (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 16
NEW RESOLVED CLAUSE  : (43 ((FRUSTRATED S) (ANSWER P))
                ((SMART (A)) (CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE  : (44 ((SMART (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (45 ((ANSWER P) (FRUSTRATED (B)) (CATCH (B) (A)))
                ((COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE  : (46 ((ANSWER P) (FRUSTRATED (B)))
                ((SMART (A)) (RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (47 ((ANSWER P))
                ((BEEP (A)) (RR (A)) (CATCH (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (48 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (RR (A)) (COYOTE (B)) (SMART (A))
                 (COYOTE Y)))
RESOLVING CLAUSE 1 : 12
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (49 ((FRUSTRATED (B)) (ANSWER P))
                ((RR (A)) (CHASE (B) (A)) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (50 ((ANSWER P))
                ((COYOTE (B)) (RR (A)) (CHASE (B) (A)) (SMART (A))
                 (COYOTE Y)))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (51 ((ANSWER P))
                ((COYOTE Y) (CATCH (B) (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 16
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (52 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A)) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE  : (53 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE (B)) (RR (A)) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE  : (54 ((FRUSTRATED (B)) (ANSWER P))
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((CHASE (B) U) (COYOTE (B)) (BEEP U) (RR U)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (55 ((ANSWER P)) ((CATCH (B) U) (RR U)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (56 ((ANSWER P)) ((CATCH (B) (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 12
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (57 ((FRUSTRATED (B)) (ANSWER P))
((CHASE (B) U) (BEEP U) (RR U)))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (58 ((ANSWER P))
((COYOTE (B)) (CHASE (B) U) (BEEP U) (RR U)))
RESOLVING CLAUSE 1 : 16
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (59 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE (B)) (CHASE (B) (A)) (BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 17
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (60 ((ANSWER P)) ((RR (A)) (CATCH (B) (A))))
RESOLVING CLAUSE 1 : 18
RESOLVING CLAUSE 2 : 20
NEW RESOLVED CLAUSE : (61 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE (B)) (BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 7
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE : (62 ((FRUSTRATED (B)) (ANSWER P))
((RR U) (SMART U) (CHASE (B) U)))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE : (63 ((ANSWER P))
((RR U) (SMART U) (COYOTE (B)) (CHASE (B) U)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE : (64 ((FRUSTRATED (B)) (ANSWER P))
((SMART (A)) (COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 12
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE : (65 ((FRUSTRATED (B)) (ANSWER P))
((RR (A)) (CHASE (B) (A)) (SMART (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE : (66 ((CATCH (B) (A)) (ANSWER P))
((CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE : (67 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P))
((COYOTE Y)))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 23

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NEW RESOLVED CLAUSE  : (68 ((FRUSTRATED (B)) (ANSWER P))
                ((SMART (A)) (COYOTE Y) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE  : (69 ((FRUSTRATED (B)) (ANSWER P))
                ((RR (A)) (BEEP (A)) (COYOTE Y) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 24
NEW RESOLVED CLAUSE  : (70 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) T) (COYOTE (B)) (RR T) (BEEP T)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (71 ((CATCH (B) (A)) (ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (72 ((CATCH (B) (A)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (73 ((ANSWER P)) ((SMART T) (RR T) (CHASE (B) T)))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (74 ((ANSWER P))
                ((COYOTE Y) (SMART (A)) (RR (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (75 ((ANSWER P)) ((BEEP T) (RR T) (CHASE (B) T)))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE  : (76 ((ANSWER P)) ((CHASE (B) (A)) (RR (A)) (SMART (A))))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE  : (77 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE  : (78 ((FRUSTRATED (B)) (ANSWER P))
                ((RR (A)) (BEEP (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE  : (79 ((FRUSTRATED (B)) (ANSWER P))
                ((SMART (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (80 ((FRUSTRATED (B)) (ANSWER P))
                ((SMART (A)) (RR (A))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (81 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE Y) (SMART (A)) (RR (A))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 27
NEW RESOLVED CLAUSE  : (82 ((FRUSTRATED (B)) (ANSWER P)) ((BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 3
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RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE  : (83 ((ANSWER P) (FRUSTRATED (B)))
                ((BEEP T) (CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 29
NEW RESOLVED CLAUSE  : (84 ((CATCH (B) (A)) (ANSWER P))
                ((COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 29
NEW RESOLVED CLAUSE  : (85 ((ANSWER P))
                ((COYOTE Y) (CHASE (B) (A)) (SMART (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 29
NEW RESOLVED CLAUSE  : (86 ((ANSWER P))
                ((COYOTE Y) (CHASE (B) (A)) (COYOTE (B)) (BEEP (A))
                 (RR (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (87 ((ANSWER P)) ((SMART (A)) (RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (88 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE (B))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (89 ((ANSWER P))
                ((COYOTE Y) (SMART (A)) (RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (90 ((ANSWER P)) ((BEEP (A)) (RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (91 ((ANSWER P))
                ((COYOTE (B)) (CHASE (B) T) (RR T) (BEEP T)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (92 ((ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A)) (SMART (A))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (93 ((ANSWER P))
                ((COYOTE (B)) (RR (A)) (CHASE (B) (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (94 ((ANSWER P))
                ((BEEP (A)) (COYOTE W) (CATCH W (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (95 ((FRUSTRATED W) (ANSWER P))
                ((CHASE W (A)) (RR (A)) (COYOTE W) (BEEP (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (96 ((ANSWER P)) ((COYOTE W) (CATCH W (A)) (RR (A))))
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RESOLVING CLAUSE 1 : 23
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (97 ((FRUSTRATED (B)) (ANSWER P))
                ((BEEP (A)) (COYOTE (B)) (RR (A)) (COYOTE Y)
                 (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (98 ((SMART (A)) (ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (99 ((ANSWER P)) ((COYOTE Y) (CATCH (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 21
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (100 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 28
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (101 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (102 ((ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 25
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (103 ((ANSWER P)) ((CHASE (B) (A)) (RR (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (104 ((ANSWER P) (FRUSTRATED W))
                ((COYOTE W) (SMART (A)) (CHASE W (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (105 ((ANSWER P) (FRUSTRATED W))
                ((SMART (A)) (RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (106 ((FRUSTRATED W) (ANSWER P))
                ((COYOTE W) (SMART (A)) (CHASE W (A))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (107 ((FRUSTRATED W) (ANSWER P))
                ((COYOTE W) (CHASE W (A)) (RR (A))))
RESOLVING CLAUSE 1 : 16
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (108 ((FRUSTRATED W) (ANSWER P))
                ((CHASE W (A)) (COYOTE W) (BEEP (A))))
RESOLVING CLAUSE 1 : 17
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (109 ((ANSWER P)) ((CATCH W (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 23
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (110 ((FRUSTRATED (B)) (ANSWER P))
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((CHASE (B) (A)) (COYOTE Y) (COYOTE (B)) (BEEP (A))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE : (111 ((FRUSTRATED (B)) (ANSWER P))
((BEEP (A)) (COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 29
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE : (112 ((ANSWER P))
((COYOTE Y) (CHASE (B) (A)) (COYOTE (B)) (BEEP (A))))
RESOLVING CLAUSE 1 : 32
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE : (113 ((ANSWER P))
((CHASE (B) (A)) (COYOTE (B)) (BEEP (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (114 ((FRUSTRATED S) (ANSWER P))
((SMART (A)) (RR (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (115 ((FRUSTRATED S) (ANSWER P))
((SMART (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (116 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE Y) (SMART (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (117 ((FRUSTRATED (B)) (ANSWER P))
((SMART (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 33
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (118 ((FRUSTRATED S) (ANSWER P))
((BEEP (A)) (RR (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE : (119 ((FRUSTRATED S) (ANSWER P))
((BEEP (A)) (COYOTE S)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 41
NEW RESOLVED CLAUSE : (120 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 41
NEW RESOLVED CLAUSE : (121 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (RR (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 41
NEW RESOLVED CLAUSE : (122 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (RR (A))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE : (123 ((FRUSTRATED (B)) (ANSWER P))

((BEEP (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 43
NEW RESOLVED CLAUSE : (124 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 44
NEW RESOLVED CLAUSE : (125 ((ANSWER P)) ((COYOTE Y) (CATCH (B) (A))))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 44
NEW RESOLVED CLAUSE : (126 ((ANSWER P)) ((CATCH (B) (A))))
RESOLVING CLAUSE 1 : 43
RESOLVING CLAUSE 2 : 44
NEW RESOLVED CLAUSE : (127 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE : (128 ((FRUSTRATED (B)) (ANSWER P))
((RR (A)) (BEEP (A)) (COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE : (129 ((FRUSTRATED (B)) (ANSWER P))
((BEEP (A)) (COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 46
NEW RESOLVED CLAUSE : (130 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE 1 : 25
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (131 ((ANSWER P))
((COYOTE Y) (BEEP (A)) (RR (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (132 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE Y) (BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 30
RESOLVING CLAUSE 2 : 47
NEW RESOLVED CLAUSE : (133 ((ANSWER P))
((COYOTE Y) (BEEP (A)) (RR (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 48
NEW RESOLVED CLAUSE : (134 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE Y) (COYOTE (B)) (CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 49
NEW RESOLVED CLAUSE : (135 ((FRUSTRATED (B)) (ANSWER P))
((COYOTE Y) (CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 50
NEW RESOLVED CLAUSE : (136 ((ANSWER P))
((COYOTE Y) (CHASE (B) (A)) (COYOTE (B)) (RR (A))))
RESOLVING CLAUSE 1 : 23

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RESOLVING CLAUSE 2 : 51
NEW RESOLVED CLAUSE  : (137 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (COYOTE Y) (BEEP (A))))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 52
NEW RESOLVED CLAUSE  : (138 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE Y) (CHASE (B) (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 53
NEW RESOLVED CLAUSE  : (139 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE Y) (COYOTE (B)) (RR (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 54
NEW RESOLVED CLAUSE  : (140 ((ANSWER P) (FRUSTRATED (B)))
                ((COYOTE (B)) (CHASE (B) U) (RR U)))
RESOLVING CLAUSE 1 : 12
RESOLVING CLAUSE 2 : 55
NEW RESOLVED CLAUSE  : (141 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) U) (RR U)))
RESOLVING CLAUSE 1 : 13
RESOLVING CLAUSE 2 : 55
NEW RESOLVED CLAUSE  : (142 ((ANSWER P)) ((COYOTE (B)) (CHASE (B) U) (RR U)))
RESOLVING CLAUSE 1 : 25
RESOLVING CLAUSE 2 : 55
NEW RESOLVED CLAUSE  : (143 ((ANSWER P)) ((CHASE (B) U) (RR U)))
RESOLVING CLAUSE 1 : 27
RESOLVING CLAUSE 2 : 55
NEW RESOLVED CLAUSE  : (144 ((FRUSTRATED (B)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE 1 : 30
RESOLVING CLAUSE 2 : 55
NEW RESOLVED CLAUSE  : (145 ((ANSWER P)) ((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE 1 : 26
RESOLVING CLAUSE 2 : 56
NEW RESOLVED CLAUSE  : (146 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (BEEP (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 57
NEW RESOLVED CLAUSE  : (147 ((ANSWER P)) ((RR U) (BEEP U) (CHASE (B) U)))
RESOLVING CLAUSE 1 : 25
RESOLVING CLAUSE 2 : 60
NEW RESOLVED CLAUSE  : (148 ((ANSWER P)) ((CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 62
NEW RESOLVED CLAUSE  : (149 ((ANSWER P)) ((CHASE (B) U) (SMART U) (RR U)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 64
NEW RESOLVED CLAUSE  : (150 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 66
NEW RESOLVED CLAUSE  : (151 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 19
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RESOLVING CLAUSE 2 : 66
NEW RESOLVED CLAUSE  : (152 ((ANSWER P))
                ((SMART (A)) (CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 51
RESOLVING CLAUSE 2 : 66
NEW RESOLVED CLAUSE  : (153 ((ANSWER P))
                ((BEEP (A)) (CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 55
RESOLVING CLAUSE 2 : 66
NEW RESOLVED CLAUSE  : (154 ((ANSWER P)) ((COYOTE Y) (CHASE (B) (A)) (RR (A))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 67
NEW RESOLVED CLAUSE  : (155 ((FRUSTRATED (B)) (ANSWER P))
                ((SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 51
RESOLVING CLAUSE 2 : 67
NEW RESOLVED CLAUSE  : (156 ((FRUSTRATED (B)) (ANSWER P))
                ((BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 55
RESOLVING CLAUSE 2 : 67
NEW RESOLVED CLAUSE  : (157 ((FRUSTRATED (B)) (ANSWER P))
                ((RR (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 68
NEW RESOLVED CLAUSE  : (158 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 70
NEW RESOLVED CLAUSE  : (159 ((ANSWER P) (FRUSTRATED (B)))
                ((COYOTE (B)) (CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 10
RESOLVING CLAUSE 2 : 71
NEW RESOLVED CLAUSE  : (160 ((CATCH (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 71
NEW RESOLVED CLAUSE  : (161 ((ANSWER P)) ((SMART (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 56
RESOLVING CLAUSE 2 : 71
NEW RESOLVED CLAUSE  : (162 ((ANSWER P)) ((BEEP (A)) (CHASE (B) (A))))
RESOLVING CLAUSE 1 : 11
RESOLVING CLAUSE 2 : 72
NEW RESOLVED CLAUSE  : (163 ((ANSWER P)) ((SMART (A)) (RR (A))))
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 72
NEW RESOLVED CLAUSE  : (164 ((ANSWER P)) ((COYOTE Y) (SMART (A)) (RR (A))))
RESOLVING CLAUSE 1 : 20
RESOLVING CLAUSE 2 : 72
NEW RESOLVED CLAUSE  : (165 ((ANSWER P)) ((BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 47
RESOLVING CLAUSE 2 : 72
NEW RESOLVED CLAUSE  : (166 ((ANSWER P)) ((COYOTE Y) (BEEP (A)) (RR (A))))
RESOLVING CLAUSE 1 : 55
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RESOLVING CLAUSE 2 : 72
NEW RESOLVED CLAUSE  : (167 ((ANSWER P)) ((RR (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 75
NEW RESOLVED CLAUSE  : (168 ((ANSWER P)) ((CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 77
NEW RESOLVED CLAUSE  : (169 ((FRUSTRATED (B)) (ANSWER P)) ((SMART (A))))
RESOLVING CLAUSE 1 : 56
RESOLVING CLAUSE 2 : 77
NEW RESOLVED CLAUSE  : (170 ((FRUSTRATED (B)) (ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 79
NEW RESOLVED CLAUSE  : (171 ((FRUSTRATED (B)) (ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 83
NEW RESOLVED CLAUSE  : (172 ((FRUSTRATED (B)) (ANSWER P))
                ((CHASE (B) T) (RR T)))
RESOLVING CLAUSE 1 : 15
RESOLVING CLAUSE 2 : 84
NEW RESOLVED CLAUSE  : (173 ((ANSWER P)) ((SMART (A)) (COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 84
NEW RESOLVED CLAUSE  : (174 ((ANSWER P)) ((BEEP (A)) (COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 55
RESOLVING CLAUSE 2 : 84
NEW RESOLVED CLAUSE  : (175 ((ANSWER P)) ((COYOTE (B)) (COYOTE Y) (RR (A))))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 85
NEW RESOLVED CLAUSE  : (176 ((ANSWER P))
                ((COYOTE (B)) (CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 87
NEW RESOLVED CLAUSE  : (177 ((ANSWER P)) ((COYOTE (B)) (SMART (A))))
RESOLVING CLAUSE 1 : 39
RESOLVING CLAUSE 2 : 88
NEW RESOLVED CLAUSE  : (178 ((ANSWER P)) ((BEEP (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 91
NEW RESOLVED CLAUSE  : (179 ((ANSWER P)) ((CHASE (B) T) (COYOTE (B)) (RR T)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 92
NEW RESOLVED CLAUSE  : (180 ((ANSWER P)) ((CHASE (B) (A)) (COYOTE (B))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 94
NEW RESOLVED CLAUSE  : (181 ((FRUSTRATED W) (ANSWER P))
                ((CHASE W (A)) (RR (A)) (BEEP (A)) (COYOTE W)
                 (COYOTE Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 94
NEW RESOLVED CLAUSE  : (182 ((ANSWER P))
                ((COYOTE Y) (CATCH W (A)) (COYOTE W) (RR (A))))
```

RESOLVING CLAUSE 1 : 16
RESOLVING CLAUSE 2 : 94
NEW RESOLVED CLAUSE : (183 ((FRUSTRATED W) (ANSWER P))
((COYOTE Y) (BEEP (A)) (CHASE W (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 17
RESOLVING CLAUSE 2 : 94
NEW RESOLVED CLAUSE : (184 ((ANSWER P)) ((COYOTE Y) (CATCH W (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 94
NEW RESOLVED CLAUSE : (185 ((FRUSTRATED W) (ANSWER P))
((COYOTE Y) (BEEP (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 95
NEW RESOLVED CLAUSE : (186 ((ANSWER P) (FRUSTRATED W))
((BEEP (A)) (RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 96
NEW RESOLVED CLAUSE : (187 ((FRUSTRATED W) (ANSWER P)) ((RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 36
RESOLVING CLAUSE 2 : 98
NEW RESOLVED CLAUSE : (188 ((FRUSTRATED W) (ANSWER P))
((COYOTE W) (RR (A)) (CHASE W (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 41
RESOLVING CLAUSE 2 : 98
NEW RESOLVED CLAUSE : (189 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (RR (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 43
RESOLVING CLAUSE 2 : 98
NEW RESOLVED CLAUSE : (190 ((FRUSTRATED S) (ANSWER P))
((COYOTE S) (CHASE S (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 72
RESOLVING CLAUSE 2 : 99
NEW RESOLVED CLAUSE : (191 ((ANSWER P)) ((COYOTE Y) (RR (A))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 104
NEW RESOLVED CLAUSE : (192 ((FRUSTRATED W) (ANSWER P))
((COYOTE Y) (SMART (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 104
NEW RESOLVED CLAUSE : (193 ((FRUSTRATED W) (ANSWER P))
((COYOTE Y) (CHASE W (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 9
RESOLVING CLAUSE 2 : 105
NEW RESOLVED CLAUSE : (194 ((FRUSTRATED W) (ANSWER P))
((COYOTE W) (SMART (A))))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 105
NEW RESOLVED CLAUSE : (195 ((FRUSTRATED W) (ANSWER P))
((COYOTE W) (RR (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 106

```
NEW RESOLVED CLAUSE  : (196 ((FRUSTRATED W) (ANSWER P))
                ((CHASE W (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 108
NEW RESOLVED CLAUSE  : (197 ((ANSWER P) (FRUSTRATED W))
                ((BEEP (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 40
RESOLVING CLAUSE 2 : 109
NEW RESOLVED CLAUSE  : (198 ((FRUSTRATED W) (ANSWER P)) ((COYOTE W)))
RESOLVING CLAUSE 1 : 42
RESOLVING CLAUSE 2 : 109
NEW RESOLVED CLAUSE  : (199 ((FRUSTRATED (B)) (ANSWER P)) ((COYOTE (B))))
RESOLVING CLAUSE 1 : 45
RESOLVING CLAUSE 2 : 109
NEW RESOLVED CLAUSE  : (200 ((FRUSTRATED (B)) (ANSWER P))
                ((COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 84
RESOLVING CLAUSE 2 : 109
NEW RESOLVED CLAUSE  : (201 ((ANSWER P)) ((COYOTE Y) (COYOTE (B))))
RESOLVING CLAUSE 1 : 88
RESOLVING CLAUSE 2 : 109
NEW RESOLVED CLAUSE  : (202 ((ANSWER P)) ((COYOTE (B))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 114
NEW RESOLVED CLAUSE  : (203 ((ANSWER P) (FRUSTRATED S))
                ((COYOTE S) (SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 34
RESOLVING CLAUSE 2 : 114
NEW RESOLVED CLAUSE  : (204 ((FRUSTRATED S) (ANSWER P)) ((COYOTE S) (RR (A))))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 114
NEW RESOLVED CLAUSE  : (205 ((FRUSTRATED S) (ANSWER P))
                ((COYOTE S) (RR (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 44
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (206 ((FRUSTRATED S) (ANSWER P)) ((COYOTE S)))
RESOLVING CLAUSE 1 : 98
RESOLVING CLAUSE 2 : 115
NEW RESOLVED CLAUSE  : (207 ((FRUSTRATED S) (ANSWER P))
                ((COYOTE Y) (COYOTE S)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 118
NEW RESOLVED CLAUSE  : (208 ((ANSWER P) (FRUSTRATED S))
                ((COYOTE S) (BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (209 ((ANSWER P) (FRUSTRATED S))
                ((COYOTE Y) (CHASE S (A)) (COYOTE S) (RR (A))
                 (BEEP (A))))
RESOLVING CLAUSE 1 : 14
RESOLVING CLAUSE 2 : 120
NEW RESOLVED CLAUSE  : (210 ((FRUSTRATED S) (ANSWER P))
```

((COYOTE Y) (CHASE S (A)) (COYOTE S) (BEEP (A))))
RESOLVING CLAUSE 1 : 66
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE : (211 ((ANSWER P)) ((CHASE (B) (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 67
RESOLVING CLAUSE 2 : 125
NEW RESOLVED CLAUSE : (212 ((FRUSTRATED (B)) (ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 71
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE : (213 ((ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE 1 : 77
RESOLVING CLAUSE 2 : 126
NEW RESOLVED CLAUSE : (214 ((FRUSTRATED (B)) (ANSWER P)) NIL)
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE : (215 ((ANSWER P)) ((SMART (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 51
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE : (216 ((ANSWER P)) ((BEEP (A)) (COYOTE Y)))
RESOLVING CLAUSE 1 : 125
RESOLVING CLAUSE 2 : 151
NEW RESOLVED CLAUSE : (217 ((ANSWER P)) ((COYOTE Y)))
RESOLVING CLAUSE 1 : 22
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE : (218 ((ANSWER P)) ((SMART (A))))
RESOLVING CLAUSE 1 : 56
RESOLVING CLAUSE 2 : 160
NEW RESOLVED CLAUSE : (219 ((ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE 1 : 160
RESOLVING CLAUSE 2 : 126
LAST CLAUSE : (220 ((ANSWER P)) NIL)
ANSWER TO QUERY IS : P
NIL
*

3. Customs

* (two-pointer *customs* 7)

RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (8 ((V Y) (ANSWER D)) ((E Y) (D (F Y))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (9 ((ANSWER D)) ((C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE : (10 ((ANSWER D)) ((S (A) R) (C R)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE : (11 ((ANSWER D) (V (A))) ((D (F (A)))))
RESOLVING CLAUSE 1 : 5

RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE : (12 ((ANSWER D) (V Y)) ((S (A) (F Y)) (E Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE : (13 ((ANSWER D)) ((D (F Y)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE : (14 ((V Y) (ANSWER D)) ((E Y) (C (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE : (15 ((V (A)) (ANSWER D)) ((E (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE : (16 ((V (A)) (ANSWER D)) ((S (A) (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE : (17 ((ANSWER D)) ((D (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE : (18 ((ANSWER D) (V (A))) ((E (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE : (19 ((ANSWER D)) ((E Y) (S (A) (F Y)) (D Y)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE : (20 ((ANSWER D)) ((E (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE : (21 ((ANSWER D)) ((E Y) (D (F Y)) (S (A) Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE : (22 ((ANSWER D) (V (A))) ((C (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE : (23 ((ANSWER D)) ((C (A)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE : (24 ((ANSWER D) (V (A))) ((C (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE : (25 ((ANSWER D)) ((C (F (A))) (E (A)) (D (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 16
NEW RESOLVED CLAUSE : (26 ((ANSWER D)) ((D (A)) (S (A) (F (A)))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE : (27 ((ANSWER D)) ((D (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 17
NEW RESOLVED CLAUSE : (28 ((ANSWER D)) ((S (A) (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 18

NEW RESOLVED CLAUSE : (29 ((V (A)) (ANSWER D)) NIL)
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 18
NEW RESOLVED CLAUSE : (30 ((ANSWER D)) ((D (A)) (E (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE : (31 ((V (A)) (ANSWER D)) ((D (A)) (E (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE : (32 ((ANSWER D)) ((S (A) (F (A))) (E (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 19
NEW RESOLVED CLAUSE : (33 ((ANSWER D)) ((S (A) (F Y)) (E Y) (S (A) Y)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 21
NEW RESOLVED CLAUSE : (34 ((V (A)) (ANSWER D))
((D (F (F (A)))) (E (F (A))) (E (A))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE : (35 ((V (A)) (ANSWER D) (V Y)) ((E Y) (C (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 22
NEW RESOLVED CLAUSE : (36 ((ANSWER D)) ((D (A)) (C (A))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE : (37 ((V Y) (ANSWER D)) ((D Y) (C (A)) (E Y)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE : (38 ((ANSWER D)) ((E (A)) (C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 23
NEW RESOLVED CLAUSE : (39 ((ANSWER D)) ((E Y) (C (A)) (S (A) Y)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 24
NEW RESOLVED CLAUSE : (40 ((ANSWER D)) ((D (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE : (41 ((ANSWER D)) ((E (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 25
NEW RESOLVED CLAUSE : (42 ((ANSWER D)) ((E (A)) (C (F (A))) (S (A) (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE : (43 ((ANSWER D)) ((S (A) (F (A)))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 26
NEW RESOLVED CLAUSE : (44 ((ANSWER D)) ((S (A) (A)) (S (A) (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 28
NEW RESOLVED CLAUSE : (45 ((V X) (ANSWER D)) ((D (F (A))) (S (A) (A)) (E X)))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 29

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NEW RESOLVED CLAUSE  : (46 ((ANSWER D)) ((D (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (47 ((ANSWER D)) ((E (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 30
NEW RESOLVED CLAUSE  : (48 ((ANSWER D)) ((S (A) (A)) (E (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (49 ((ANSWER D) (V (A))) ((D (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 31
NEW RESOLVED CLAUSE  : (50 ((ANSWER D) (V (A))) ((S (A) (A)) (E (A))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 33
NEW RESOLVED CLAUSE  : (51 ((V (A)) (ANSWER D))
                ((E (F (A))) (S (A) (F (F (A)))) (E (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (52 ((ANSWER D) (V (A))) ((E (F (A))) (D (F (F (A))))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 34
NEW RESOLVED CLAUSE  : (53 ((ANSWER D))
                ((E (A)) (E (F (A))) (D (F (F (A)))) (D (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (54 ((V Y) (ANSWER D)) ((C (A)) (E Y) (D (A))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 35
NEW RESOLVED CLAUSE  : (55 ((V (A)) (ANSWER D)) ((C (A)) (E Y) (D Y)))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 36
NEW RESOLVED CLAUSE  : (56 ((ANSWER D)) ((S (A) (A)) (C (A))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (57 ((ANSWER D) (V (A))) ((C (A)) (D (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (58 ((ANSWER D) (V (A))) ((E (A)) (C (A))))
RESOLVING CLAUSE 1 : 5
RESOLVING CLAUSE 2 : 37
NEW RESOLVED CLAUSE  : (59 ((ANSWER D) (V Y)) ((E Y) (C (A)) (S (A) Y)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 38
NEW RESOLVED CLAUSE  : (60 ((V Y) (ANSWER D)) ((C (A)) (E (A)) (E Y)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 39
NEW RESOLVED CLAUSE  : (61 ((V (A)) (ANSWER D)) ((C (A)) (E (F (A))) (E (A))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (62 ((ANSWER D)) ((C (F (A)))))
RESOLVING CLAUSE 1 : 5
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RESOLVING CLAUSE 2 : 40
NEW RESOLVED CLAUSE  : (63 ((ANSWER D)) ((S (A) (A)) (C (F (A)))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 42
NEW RESOLVED CLAUSE  : (64 ((V X) (ANSWER D))
                ((S (A) (A)) (C (F (A))) (E (A)) (E X)))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 44
NEW RESOLVED CLAUSE  : (65 ((V X) (ANSWER D))
                ((S (A) (F (A))) (S (A) (A)) (E X)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (66 ((ANSWER D) (V (A))) ((S (A) (A)) (D (F (A)))))
RESOLVING CLAUSE 1 : 6
RESOLVING CLAUSE 2 : 45
NEW RESOLVED CLAUSE  : (67 ((ANSWER D)) ((E X) (S (A) (A)) (D (F (A))) (D X)))
RESOLVING CLAUSE 1  : 46
RESOLVING CLAUSE 2 : 4
LAST CLAUSE : (68 ((ANSWER D)) NIL)
ANSWER TO QUERY IS : D
NIL
*
```

4. Harmonia

```
* (two-pointer *Harmoniaexp* 7)

RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 7
NEW RESOLVED CLAUSE  : (8 ((ANSWER X)) ((PARENT Z (HARMONIA)) (PARENT X Z)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (9 ((ANSWER Z)) ((MOTHER Z (HARMONIA)) (PARENT Z Z)))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (10 ((ANSWER X)) ((MOTHER X Z) (PARENT Z (HARMONIA))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (11 ((ANSWER Z)) ((FATHER Z (HARMONIA)) (PARENT Z Z)))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 8
NEW RESOLVED CLAUSE  : (12 ((ANSWER X)) ((FATHER X Z) (PARENT Z (HARMONIA))))
RESOLVING CLAUSE 1 : 2
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (13 ((ANSWER Z)) ((MOTHER Z Z) (MOTHER Z (HARMONIA))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 9
NEW RESOLVED CLAUSE  : (14 ((ANSWER Z)) ((FATHER Z Z) (MOTHER Z (HARMONIA))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (15 ((ANSWER Z)) ((FATHER Z (HARMONIA)) (MOTHER Z Z)))
RESOLVING CLAUSE 1 : 5
```

```
 RESOLVING CLAUSE 2 : 10
 NEW RESOLVED CLAUSE  : (16 ((ANSWER (HERA))) ((PARENT (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (17 ((ANSWER Z)) ((FATHER Z Z) (FATHER Z (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 11
 NEW RESOLVED CLAUSE  : (18 ((ANSWER (ARES))) ((PARENT (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (19 ((ANSWER (ZEUS))) ((PARENT (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 12
 NEW RESOLVED CLAUSE  : (20 ((ANSWER (ARES))) ((PARENT (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 15
 NEW RESOLVED CLAUSE  : (21 ((ANSWER (ARES))) ((MOTHER (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 16
 NEW RESOLVED CLAUSE  : (22 ((ANSWER (HERA))) ((MOTHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 16
 NEW RESOLVED CLAUSE  : (23 ((ANSWER (HERA))) ((FATHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 6
 RESOLVING CLAUSE 2 : 17
 NEW RESOLVED CLAUSE  : (24 ((ANSWER (ARES))) ((FATHER (ARES) (ARES))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 19
 NEW RESOLVED CLAUSE  : (25 ((ANSWER (ZEUS))) ((MOTHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 19
 NEW RESOLVED CLAUSE  : (26 ((ANSWER (ZEUS))) ((FATHER (ARES) (HARMONIA))))
 RESOLVING CLAUSE 1 : 2
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (27 ((ANSWER (ARES))) ((MOTHER (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1 : 3
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (28 ((ANSWER (ARES))) ((FATHER (HARMONIA) (HARMONIA))))
 RESOLVING CLAUSE 1  : 23
 RESOLVING CLAUSE 2 : 6
 LAST CLAUSE : (29 ((ANSWER (HERA))) NIL)
 ANSWER TO QUERY IS : (HERA)
NIL
*
```

5. Caesar

```
* (two-pointer *cae* 9)

 RESOLVING CLAUSE 1 : 5
 RESOLVING CLAUSE 2 : 9
 NEW RESOLVED CLAUSE  : (10 ((LOYAL X (CAESAR)) (ANSWER X)) ((ROMAN X)))
 RESOLVING CLAUSE 1 : 2
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```
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (11 ((ANSWER (MARCUS)) (LOYAL (MARCUS) (CAESAR))) NIL)
RESOLVING CLAUSE 1 : 7
RESOLVING CLAUSE 2 : 10
NEW RESOLVED CLAUSE  : (12 ((ANSWER X))
                ((TA X (CAESAR)) (RULER (CAESAR)) (PERSON X)
                 (ROMAN X)))
RESOLVING CLAUSE 1 : 7
RESOLVING CLAUSE 2 : 11
NEW RESOLVED CLAUSE  : (13 ((ANSWER (MARCUS)))
                ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                 (PERSON (MARCUS))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (14 ((ANSWER X))
                ((ROMAN X) (RULER (CAESAR)) (TA X (CAESAR)) (MAN X)))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (15 ((ANSWER X)) ((ROMAN X) (PERSON X) (TA X (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 12
NEW RESOLVED CLAUSE  : (16 ((ANSWER (MARCUS)))
                ((ROMAN (MARCUS)) (PERSON (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE 1 : 3
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (17 ((ANSWER (MARCUS)))
                ((RULER (CAESAR)) (TA (MARCUS) (CAESAR))
                 (MAN (MARCUS))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (18 ((ANSWER (MARCUS)))
                ((PERSON (MARCUS)) (TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 13
NEW RESOLVED CLAUSE  : (19 ((ANSWER (MARCUS)))
                ((PERSON (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE 1 : 1
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (20 ((ANSWER (MARCUS)))
                ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                 (ROMAN (MARCUS))))
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (21 ((ANSWER X)) ((MAN X) (TA X (CAESAR)) (ROMAN X)))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 14
NEW RESOLVED CLAUSE  : (22 ((ANSWER (MARCUS)))
                ((MAN (MARCUS)) (RULER (CAESAR)) (ROMAN (MARCUS))))
RESOLVING CLAUSE 1 : 8
RESOLVING CLAUSE 2 : 15
NEW RESOLVED CLAUSE  : (23 ((ANSWER (MARCUS)))
                ((PERSON (MARCUS)) (ROMAN (MARCUS))))
```

```
 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 17
 NEW RESOLVED CLAUSE  : (24 ((ANSWER (MARCUS)))
                ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 17
 NEW RESOLVED CLAUSE  : (25 ((ANSWER (MARCUS)))
                ((MAN (MARCUS)) (TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 17
 NEW RESOLVED CLAUSE  : (26 ((ANSWER (MARCUS)))
                ((MAN (MARCUS)) (RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 18
 NEW RESOLVED CLAUSE  : (27 ((ANSWER (MARCUS))) ((PERSON (MARCUS))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (28 ((ANSWER (MARCUS)))
                ((ROMAN (MARCUS)) (TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 20
 NEW RESOLVED CLAUSE  : (29 ((ANSWER (MARCUS)))
                ((ROMAN (MARCUS)) (RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 21
 NEW RESOLVED CLAUSE  : (30 ((ANSWER (MARCUS)))
                ((ROMAN (MARCUS)) (MAN (MARCUS))))
 RESOLVING CLAUSE 1 : 4
 RESOLVING CLAUSE 2 : 24
 NEW RESOLVED CLAUSE  : (31 ((ANSWER (MARCUS))) ((TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 24
 NEW RESOLVED CLAUSE  : (32 ((ANSWER (MARCUS))) ((RULER (CAESAR))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 25
 NEW RESOLVED CLAUSE  : (33 ((ANSWER (MARCUS))) ((MAN (MARCUS))))
 RESOLVING CLAUSE 1 : 8
 RESOLVING CLAUSE 2 : 28
 NEW RESOLVED CLAUSE  : (34 ((ANSWER (MARCUS))) ((ROMAN (MARCUS))))
 RESOLVING CLAUSE 1  : 31
 RESOLVING CLAUSE 2 : 8
 LAST CLAUSE : (35 ((ANSWER (MARCUS))) NIL)
 ANSWER TO QUERY IS : (MARCUS)
NIL
*
```

6. BASIC

```
* (two-pointer *basic* 5)

 RESOLVING CLAUSE 1 : 1
 RESOLVING CLAUSE 2 : 5
 NEW RESOLVED CLAUSE  : (6 ((ANSWER G)) ((HOWL X)))
 RESOLVING CLAUSE 1 : 2
```

RESOLVING CLAUSE 2 : 6
NEW RESOLVED CLAUSE : (7 ((HAVE Z) (ANSWER G)) NIL)
RESOLVING CLAUSE 1 : 4
RESOLVING CLAUSE 2 : 6
NEW RESOLVED CLAUSE : (8 ((ANSWER G)) ((HOUND K)))
RESOLVING CLAUSE 1 : 7
RESOLVING CLAUSE 2 : 3
LAST CLAUSE : (9 ((ANSWER G)) NIL)
ANSWER TO QUERY IS : G
NIL

2. UNIT-PREFERENCE

1. Howling

* (unit-preference *howling*)

RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (9 NIL ((HOWL (A)) (LS (JOHN))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (10 NIL ((MOUSE Z) (HAVE (JOHN) Z) (CAT (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (11 NIL ((MOUSE (A)) (CAT Y) (HAVE (JOHN) Y)))
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (12 ((ANSWER R)) ((HAVE X (B)) (CAT Y) (HAVE X Y)))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (13 ((ANSWER R)) ((HOWL V) (HAVE (JOHN) V)))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (14 ((ANSWER R)) ((HOWL (B)) (LS (JOHN))))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (15 ((ANSWER R)) ((MOUSE Z) (HAVE (JOHN) Z) (CAT (B))))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (16 ((ANSWER R)) ((MOUSE (B)) (CAT Y) (HAVE (JOHN) Y)))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 13
NEW RESOLVED CLAUSE : (17 ((ANSWER R)) ((HOWL (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 10
NEW RESOLVED CLAUSE : (18 NIL ((CAT (A)) (MOUSE (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 12
NEW RESOLVED CLAUSE : (19 ((ANSWER R) (HAVE (JOHN) (A))) ((HAVE X Y) (CAT Y)))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 12
NEW RESOLVED CLAUSE : (20 ((ANSWER R)) ((CAT (A)) (HAVE (JOHN) (B))))

RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 15
NEW RESOLVED CLAUSE : (21 ((ANSWER R)) ((CAT (B)) (MOUSE (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 16
NEW RESOLVED CLAUSE : (22 ((ANSWER R)) ((CAT (A)) (MOUSE (B))))
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (23 ((MOUSE (B)) (ANSWER R)) ((HAVE (JOHN) Y) (CAT Y)))
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 15
NEW RESOLVED CLAUSE : (24 ((ANSWER R)) ((CAT (B)) (HAVE (JOHN) (B))))
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 16
NEW RESOLVED CLAUSE : (25 ((ANSWER R)) ((HAVE (JOHN) Y) (CAT Y)))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 14
NEW RESOLVED CLAUSE : (26 ((ANSWER R)) ((HOWL (B))))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 12
NEW RESOLVED CLAUSE : (27 ((ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 15
NEW RESOLVED CLAUSE : (28 ((ANSWER R)) ((CAT (B)) (MOUSE (B))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 20
NEW RESOLVED CLAUSE : (29 ((ANSWER R) (HAVE (JOHN) (A))) ((CAT (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 24
NEW RESOLVED CLAUSE : (30 ((ANSWER R) (HAVE (JOHN) (A))) ((CAT (B))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 25
NEW RESOLVED CLAUSE : (31 ((ANSWER R)) ((CAT (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 23
NEW RESOLVED CLAUSE : (32 ((ANSWER R) (MOUSE (B))) ((CAT (A))))
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 21
NEW RESOLVED CLAUSE : (33 ((MOUSE (B)) (ANSWER R)) ((CAT (B))))
RESOLVING CLAUSE C : 17
RESOLVING CLAUSE D : 1
NEW RESOLVED CLAUSE : (34 ((ANSWER R)) ((HOUND (A))))
RESOLVING CLAUSE C : 26
RESOLVING CLAUSE D : 1
NEW RESOLVED CLAUSE : (35 ((ANSWER R)) ((HOUND (B))))
RESOLVING CLAUSE C : 27
RESOLVING CLAUSE D : 5
NEW RESOLVED CLAUSE : (36 ((ANSWER R) (HOUND (A))) ((CAT (B))))
RESOLVING CLAUSE C : 31
RESOLVING CLAUSE D : 5
NEW RESOLVED CLAUSE : (37 ((ANSWER R) (HOUND (A))) NIL)
RESOLVING CLAUSE C : 34
RESOLVING CLAUSE D : 5
NEW RESOLVED CLAUSE : (38 ((ANSWER R) (CAT (A))) NIL)

RESOLVING CLAUSE C : 35
RESOLVING CLAUSE D : 5
NEW RESOLVED CLAUSE : (39 ((ANSWER R) (CAT (A))) ((HOUND (B))))
RESOLVING CLAUSE C : 35
RESOLVING CLAUSE D : 36
NEW RESOLVED CLAUSE : (40 ((ANSWER R)) ((HOUND (B)) (CAT (B))))
RESOLVING CLAUSE 1 : 31
RESOLVING CLAUSE 2 : 38
LAST CLAUSE : (41 ((ANSWER R)) NIL)
ANSWER TO QUERY IS : R
NIL
*

2. RR

* (unit-preference *rr*)

RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (9 ((RR (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (10 ((CHASE (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 4
NEW RESOLVED CLAUSE : (11 ((ANSWER P)) ((SMART U) (CATCH (B) U) (RR U)))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 5
NEW RESOLVED CLAUSE : (12 ((CATCH (B) T) (FRUSTRATED (B)) (ANSWER P))
((CHASE (B) T) (RR T)))
RESOLVING CLAUSE C : 8
RESOLVING CLAUSE D : 5
NEW RESOLVED CLAUSE : (13 ((ANSWER P) (CATCH (B) T))
((CHASE (B) T) (RR T) (COYOTE (B))))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 13
NEW RESOLVED CLAUSE : (14 ((CATCH (B) T) (ANSWER P)) ((RR T) (CHASE (B) T)))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 6
NEW RESOLVED CLAUSE : (15 ((BEEP (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (16 ((SMART (A)) (ANSWER P)) ((BEEP (A))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (17 ((ANSWER P)) ((CATCH (B) (A)) (SMART (A))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 4
NEW RESOLVED CLAUSE : (18 ((ANSWER P)) ((SMART (A)) (CATCH W (A)) (COYOTE W)))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 12
NEW RESOLVED CLAUSE : (19 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
((CHASE (B) (A))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 13
NEW RESOLVED CLAUSE : (20 ((CATCH (B) (A)) (ANSWER P))

((COYOTE (B)) (CHASE (B) (A))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 5
NEW RESOLVED CLAUSE : (21 ((CATCH S (A)) (FRUSTRATED S) (ANSWER P))
((CHASE S (A)) (COYOTE S)))
RESOLVING CLAUSE A : 10
RESOLVING CLAUSE B : 12
NEW RESOLVED CLAUSE : (22 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
((RR (A))))
RESOLVING CLAUSE A : 10
RESOLVING CLAUSE B : 13
NEW RESOLVED CLAUSE : (23 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE (B)) (RR (A))))
RESOLVING CLAUSE A : 10
RESOLVING CLAUSE B : 5
NEW RESOLVED CLAUSE : (24 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P))
((RR (A)) (COYOTE (B))))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 20
NEW RESOLVED CLAUSE : (25 ((CATCH (B) (A)) (ANSWER P)) ((CHASE (B) (A))))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 23
NEW RESOLVED CLAUSE : (26 ((CATCH (B) (A)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 22
NEW RESOLVED CLAUSE : (27 ((CATCH (B) (A)) (FRUSTRATED (B)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 23
NEW RESOLVED CLAUSE : (28 ((CATCH (B) (A)) (ANSWER P)) ((COYOTE (B))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 24
NEW RESOLVED CLAUSE : (29 ((FRUSTRATED (B)) (CATCH (B) (A)) (ANSWER P))
((COYOTE (B))))
RESOLVING CLAUSE A : 15
RESOLVING CLAUSE B : 16
NEW RESOLVED CLAUSE : (30 ((SMART (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 15
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (31 ((SMART (A)) (ANSWER P)) ((RR (A))))
RESOLVING CLAUSE A : 7
RESOLVING CLAUSE B : 28
NEW RESOLVED CLAUSE : (32 ((CATCH (B) (A)) (ANSWER P)) NIL)
RESOLVING CLAUSE A : 30
RESOLVING CLAUSE B : 17
NEW RESOLVED CLAUSE : (33 ((ANSWER P)) ((CATCH (B) (A))))
RESOLVING CLAUSE A : 30
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (34 ((ANSWER P)) ((RR (A)) (CATCH (B) (A))))
RESOLVING CLAUSE A : 30
RESOLVING CLAUSE B : 18
NEW RESOLVED CLAUSE : (35 ((ANSWER P)) ((COYOTE W) (CATCH W (A))))
RESOLVING CLAUSE A : 30
RESOLVING CLAUSE B : 4
NEW RESOLVED CLAUSE : (36 ((ANSWER P)) ((CATCH W (A)) (RR (A)) (COYOTE W)))
RESOLVING CLAUSE 1 : 32

RESOLVING CLAUSE 2 : 33
LAST CLAUSE : (37 ((ANSWER P)) NIL)
ANSWER TO QUERY IS : P
NIL
*

3. Customs

* (unit-preference *customs*)

RESOLVING CLAUSE A : 3
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (8 ((S (A) (F (A))) (V (A))) NIL)
RESOLVING CLAUSE A : 3
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (9 ((C (F (A))) (V (A))) NIL)
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 6
NEW RESOLVED CLAUSE : (10 ((ANSWER D)) ((V (A))))
RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 7
NEW RESOLVED CLAUSE : (11 ((ANSWER D)) ((C (A))))
RESOLVING CLAUSE C : 10
RESOLVING CLAUSE D : 8
NEW RESOLVED CLAUSE : (12 ((ANSWER D) (S (A) (F (A)))) NIL)
RESOLVING CLAUSE C : 10
RESOLVING CLAUSE D : 9
NEW RESOLVED CLAUSE : (13 ((ANSWER D) (C (F (A)))) NIL)
RESOLVING CLAUSE C : 10
RESOLVING CLAUSE D : 1
NEW RESOLVED CLAUSE : (14 ((ANSWER D) (S (A) (F (A)))) ((E (A))))
RESOLVING CLAUSE C : 10
RESOLVING CLAUSE D : 2
NEW RESOLVED CLAUSE : (15 ((ANSWER D) (C (F (A)))) ((E (A))))
RESOLVING CLAUSE C : 11
RESOLVING CLAUSE D : 9
NEW RESOLVED CLAUSE : (16 ((ANSWER D) (V (A))) ((C (A))))
RESOLVING CLAUSE C : 11
RESOLVING CLAUSE D : 2
NEW RESOLVED CLAUSE : (17 ((ANSWER D) (V Y)) ((C (A)) (E Y)))
RESOLVING CLAUSE C : 10
RESOLVING CLAUSE D : 17
NEW RESOLVED CLAUSE : (18 ((ANSWER D)) ((E (A)) (C (A))))
RESOLVING CLAUSE A : 12
RESOLVING CLAUSE B : 5
NEW RESOLVED CLAUSE : (19 ((D (F (A))) (ANSWER D)) NIL)
RESOLVING CLAUSE A : 13
RESOLVING CLAUSE B : 7
NEW RESOLVED CLAUSE : (20 ((ANSWER D)) ((D (F (A)))))
RESOLVING CLAUSE A : 13
RESOLVING CLAUSE B : 16
NEW RESOLVED CLAUSE : (21 ((V (A)) (ANSWER D) (C (F (A)))) NIL)
RESOLVING CLAUSE A : 13
RESOLVING CLAUSE B : 17
NEW RESOLVED CLAUSE : (22 ((V Y) (ANSWER D) (C (F (A)))) ((E Y)))

RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 20
NEW RESOLVED CLAUSE : (23 ((ANSWER D) (D (A))) NIL)
RESOLVING CLAUSE 1 : 19
RESOLVING CLAUSE 2 : 20
LAST CLAUSE : (24 ((ANSWER D)) NIL)
ANSWER TO QUERY IS : D
NIL
*

4. Harmonia

* (unit-preference *harmoniaexp*)

RESOLVING CLAUSE A : 4
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (8 ((PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE A : 5
RESOLVING CLAUSE B : 2
NEW RESOLVED CLAUSE : (9 ((PARENT (HERA) (ARES))) NIL)
RESOLVING CLAUSE A : 6
RESOLVING CLAUSE B : 3
NEW RESOLVED CLAUSE : (10 ((PARENT (ARES) (HARMONIA))) NIL)
RESOLVING CLAUSE C : 7
RESOLVING CLAUSE D : 1
NEW RESOLVED CLAUSE : (11 ((ANSWER X)) ((PARENT Z (HARMONIA)) (PARENT X Z)))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (12 ((ANSWER X) (PARENT (ZEUS) (ARES))) ((PARENT X Z)))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (13 ((ANSWER (ZEUS))) ((PARENT (ARES) (HARMONIA))))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (14 ((GRANDPARENT (ZEUS) Y)) ((PARENT (ARES) Y)))
RESOLVING CLAUSE A : 8
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (15 ((GRANDPARENT X (ARES))) ((PARENT X (ZEUS))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (16 ((ANSWER X) (PARENT (HERA) (ARES))) ((PARENT X Z)))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (17 ((ANSWER (HERA))) ((PARENT (ARES) (HARMONIA))))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (18 ((GRANDPARENT (HERA) Y)) ((PARENT (ARES) Y)))
RESOLVING CLAUSE A : 9
RESOLVING CLAUSE B : 1
NEW RESOLVED CLAUSE : (19 ((GRANDPARENT X (ARES))) ((PARENT X (HERA))))
RESOLVING CLAUSE A : 10
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (20 ((ANSWER X)) ((PARENT X (ARES))))
RESOLVING CLAUSE A : 10
RESOLVING CLAUSE B : 11
NEW RESOLVED CLAUSE : (21 ((ANSWER (ARES))) ((PARENT (HARMONIA) (HARMONIA))))

```
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (22 ((GRANDPARENT (ARES) Y)) ((PARENT (HARMONIA) Y)))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 1
NEW RESOLVED CLAUSE : (23 ((GRANDPARENT X (HARMONIA))) ((PARENT X (ARES))))
RESOLVING CLAUSE C  : 7
RESOLVING CLAUSE D  : 15
NEW RESOLVED CLAUSE : (24 ((ANSWER X))
                ((GRANDPARENT X (HARMONIA)) (PARENT X (ZEUS))))
RESOLVING CLAUSE C  : 7
RESOLVING CLAUSE D  : 19
NEW RESOLVED CLAUSE : (25 ((ANSWER X))
                ((GRANDPARENT X (HARMONIA)) (PARENT X (HERA))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (26 ((ANSWER (ZEUS)) (PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 17
NEW RESOLVED CLAUSE : (27 ((ANSWER (HERA)) (PARENT (ZEUS) (ARES))) NIL)
RESOLVING CLAUSE 1  : 8
RESOLVING CLAUSE 2 : 20
LAST CLAUSE : (28 ((ANSWER (ZEUS))) NIL)
ANSWER TO QUERY IS : (ZEUS)
NIL
*
```

5. Caesar

```
* (unit-preference *cae*)

RESOLVING CLAUSE A  : 1
RESOLVING CLAUSE B  : 3
NEW RESOLVED CLAUSE : (10 ((PERSON (MARCUS))) NIL)
RESOLVING CLAUSE A  : 2
RESOLVING CLAUSE B  : 5
NEW RESOLVED CLAUSE : (11 ((HATE (MARCUS) (CAESAR)) (LOYAL (MARCUS) (CAESAR)))
                NIL)
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (12 NIL ((LOYAL X (CAESAR)) (TA X (CAESAR)) (PERSON X)))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (13 NIL ((TA X (F X)) (RULER (F X)) (PERSON X)))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (14 NIL
                ((LOYAL (MARCUS) (CAESAR)) (RULER (CAESAR))
                 (PERSON (MARCUS))))
RESOLVING CLAUSE C  : 9
RESOLVING CLAUSE D  : 5
NEW RESOLVED CLAUSE : (15 ((ANSWER X) (LOYAL X (CAESAR))) ((ROMAN X)))
RESOLVING CLAUSE A  : 2
RESOLVING CLAUSE B  : 15
NEW RESOLVED CLAUSE : (16 ((LOYAL (MARCUS) (CAESAR)) (ANSWER (MARCUS))) NIL)
RESOLVING CLAUSE A  : 4
```

```
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (17 ((RULER (CAESAR))) ((PERSON X) (TA X (F X))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (18 NIL ((PERSON (MARCUS)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (19 ((LOYAL X (F X))) ((PERSON X) (TA X (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (20 ((LOYAL X (F X)))
                          ((PERSON (MARCUS)) (RULER (CAESAR))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (21 ((TA (MARCUS) (CAESAR))) ((PERSON X) (RULER (F X))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 12
NEW RESOLVED CLAUSE : (22 NIL
                          ((TA (MARCUS) (CAESAR)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 13
NEW RESOLVED CLAUSE : (23 NIL
                          ((RULER (F (MARCUS))) (TA (MARCUS) (F (MARCUS)))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 14
NEW RESOLVED CLAUSE : (24 NIL ((RULER (CAESAR)) (LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 10
RESOLVING CLAUSE B  : 7
NEW RESOLVED CLAUSE : (25 NIL ((LOYAL (MARCUS) Y) (TA (MARCUS) Y) (RULER Y)))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (26 ((RULER (CAESAR))) ((TA (MARCUS) (F (MARCUS)))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (27 NIL ((LOYAL (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 20
NEW RESOLVED CLAUSE : (28 ((LOYAL X (F X))) ((PERSON (MARCUS))))
RESOLVING CLAUSE A  : 4
RESOLVING CLAUSE B  : 21
NEW RESOLVED CLAUSE : (29 ((TA (MARCUS) (CAESAR)) (RULER (CAESAR)))
                          ((PERSON X)))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 22
NEW RESOLVED CLAUSE : (30 ((LOYAL X (F X))) ((TA (MARCUS) (CAESAR))))
RESOLVING CLAUSE A  : 6
RESOLVING CLAUSE B  : 24
NEW RESOLVED CLAUSE : (31 ((LOYAL X (F X))) ((RULER (CAESAR))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 23
NEW RESOLVED CLAUSE : (32 ((TA (MARCUS) (CAESAR))) ((RULER (F (MARCUS)))))
RESOLVING CLAUSE A  : 8
RESOLVING CLAUSE B  : 19
NEW RESOLVED CLAUSE : (33 ((LOYAL (MARCUS) (F (MARCUS)))) ((PERSON (MARCUS))))
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```
 RESOLVING CLAUSE A  : 10
 RESOLVING CLAUSE B  : 19
 NEW RESOLVED CLAUSE : (34 ((LOYAL (MARCUS) (F (MARCUS))))
                           ((TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 18
 NEW RESOLVED CLAUSE : (35 ((ANSWER (MARCUS))) ((PERSON (MARCUS))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 22
 NEW RESOLVED CLAUSE : (36 ((ANSWER (MARCUS))) ((TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 24
 NEW RESOLVED CLAUSE : (37 ((ANSWER (MARCUS))) ((RULER (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 12
 NEW RESOLVED CLAUSE : (38 ((ANSWER (MARCUS)))
                           ((PERSON (MARCUS)) (TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 14
 NEW RESOLVED CLAUSE : (39 ((ANSWER (MARCUS)))
                           ((PERSON (MARCUS)) (RULER (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 25
 NEW RESOLVED CLAUSE : (40 ((ANSWER (MARCUS)))
                           ((RULER (CAESAR)) (TA (MARCUS) (CAESAR))))
 RESOLVING CLAUSE A  : 16
 RESOLVING CLAUSE B  : 7
 NEW RESOLVED CLAUSE : (41 ((ANSWER (MARCUS)))
                           ((TA (MARCUS) (CAESAR)) (RULER (CAESAR))
                            (PERSON (MARCUS))))
 RESOLVING CLAUSE 1  : 4
 RESOLVING CLAUSE 2 : 37
 LAST CLAUSE : (42 ((ANSWER (MARCUS))) NIL)
 ANSWER TO QUERY IS : (MARCUS)
NIL
*
6. BASIC
* (unit-preference *basic*)

 RESOLVING CLAUSE C  : 3
 RESOLVING CLAUSE D  : 2
 NEW RESOLVED CLAUSE : (6 ((HOWL (A))) NIL)
 RESOLVING CLAUSE C  : 5
 RESOLVING CLAUSE D  : 1
 NEW RESOLVED CLAUSE : (7 ((ANSWER G)) ((HOWL X)))
 RESOLVING CLAUSE 1  : 6
 RESOLVING CLAUSE 2 : 7
 LAST CLAUSE : (8 ((ANSWER G)) NIL)
 ANSWER TO QUERY IS : G
NIL
*
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