## **Conflicts**

```
Terminals unused in grammar
          T COMM
          T INOP
          T EQU
          T MULDIVANDOP
          NO ELSE
     State 101 conflicts: 4 shift/reduce
     State 102 conflicts: 4 shift/reduce
 11
     State 149 conflicts: 4 shift/reduce
 12
     State 150 conflicts: 7 shift/reduce
 13
      State 151 conflicts: 4 shift/reduce
 14
 15
     State 152 conflicts: 4 shift/reduce
     State 153 conflicts: 7 shift/reduce
     State 154 conflicts: 7 shift/reduce
 17
      State 155 conflicts: 7 shift/reduce
      Grammar
 22
          0 $accept: program T EOF
 24
          1 program: body T END subprograms
 25
          2 body: declarations statements
 29
          3 declarations: declarations type vars
```

```
State 101
  64 expression: expression • T OROP expression
               expression • T ANDOP expression
  65
  66
                | expression • T RELOP expression
  67
                expression • T ADDOP expression
  68
                | expression • T MULOP expression
  69
                expression • T DIVOP expression
  70
                expression • T POWEROP expression
                | T NOTOP expression •
  71
   T ANDOP
              shift, and go to state 109
   T MULOP
              shift, and go to state 112
   T DIVOP
              shift, and go to state 113
              shift, and go to state 114
   T POWEROP
   T ANDOP
              [reduce using rule 71 (expression)]
   T MULOP
              [reduce using rule 71 (expression)]
   T DIVOP
              [reduce using rule 71 (expression)]
   T POWEROP [reduce using rule 71 (expression)]
              reduce using rule 71 (expression)
   $default
```

```
State 102
  64 expression: expression • T OROP expression
  65
                expression • T ANDOP expression
  66
                expression • T RELOP expression
                | expression • T ADDOP expression
  67
                expression • T MULOP expression
  68
                | expression • T DIVOP expression
  69
  70
                expression • T POWEROP expression
                | T ADDOP expression •
  72
   T ANDOP
              shift, and go to state 109
   T MULOP
              shift, and go to state 112
   T DIVOP
               shift, and go to state 113
   T POWEROP
              shift, and go to state 114
               [reduce using rule 72 (expression)]
   T ANDOP
               [reduce using rule 72 (expression)]
   T MULOP
               [reduce using rule 72 (expression)]
   T DIVOP
   T POWEROP [reduce using rule 72 (expression)]
    $default
               reduce using rule 72 (expression)
```

```
State 149
  64 expression: expression • T OROP expression
  64
               expression T_OROP expression •
  65
               expression • T ANDOP expression
               | expression • T RELOP expression
  66
               | expression • T ADDOP expression
  67
  68
               | expression • T MULOP expression
               | expression • T DIVOP expression
  69
               | expression • T POWEROP expression
  70
              shift, and go to state 109
   T ANDOP
   T MULOP
              shift, and go to state 112
              shift, and go to state 113
   T DIVOP
   T POWEROP shift, and go to state 114
              [reduce using rule 64 (expression)]
   T ANDOP
   T MULOP
              [reduce using rule 64 (expression)]
   T DIVOP
              [reduce using rule 64 (expression)]
   T POWEROP [reduce using rule 64 (expression)]
   $default
              reduce using rule 64 (expression)
```

```
State 150
  64 expression: expression • T OROP expression
               expression • T ANDOP expression
                | expression T_ANDOP expression •
  65
                expression • T RELOP expression
  66
                | expression • T_ADDOP expression
  67
                expression • T MULOP expression
  68
  69
                expression • T DIVOP expression
  70
                expression • T POWEROP expression
   T OROP
              shift, and go to state 108
   T ANDOP
              shift, and go to state 109
              shift, and go to state 110
   T RELOP
   T ADDOP
              shift, and go to state 111
              shift, and go to state 112
   T MULOP
   T DIVOP
              shift, and go to state 113
              shift, and go to state 114
   T POWEROP
   T OROP
               [reduce using rule 65 (expression)]
              [reduce using rule 65 (expression)]
   T ANDOP
              [reduce using rule 65 (expression)]
   T RELOP
   T ADDOP
              [reduce using rule 65 (expression)]
   T MULOP
              [reduce using rule 65 (expression)]
              [reduce using rule 65 (expression)]
   T DIVOP
              [reduce using rule 65 (expression)]
   T POWEROP
              reduce using rule 65 (expression)
   $default
```

```
State 151
  64 expression: expression • T OROP expression
                | expression • T ANDOP expression
  65
  66
                | expression • T RELOP expression
  66
                | expression T_RELOP expression •
                | expression • T ADDOP expression
  67
                | expression • T MULOP expression
  68
                | expression • T_DIVOP expression
  69
  70
                | expression • T POWEROP expression
              shift, and go to state 108
   T OROP
   T ANDOP
              shift, and go to state 109
              shift, and go to state 111
   T ADDOP
   T MULOP
              shift, and go to state 112
   T DIVOP
              shift, and go to state 113
   T POWEROP
              shift, and go to state 114
   T RELOP error (nonassociative)
   T ANDOP
               [reduce using rule 66 (expression)]
               [reduce using rule 66 (expression)]
   T MULOP
   T DIVOP
               [reduce using rule 66 (expression)]
   T POWEROP [reduce using rule 66 (expression)]
              reduce using rule 66 (expression)
   $default
```

```
State 152
  64 expression: expression • T OROP expression
               | expression • T ANDOP expression
  66
               | expression • T_RELOP expression
  67
               expression • T ADDOP expression
               expression T ADDOP expression •
  67
               | expression • T MULOP expression
  68
  69
               | expression • T DIVOP expression
  70
               expression • T POWEROP expression
              shift, and go to state 109
   T ANDOP
              shift, and go to state 112
   T MULOP
   T DIVOP
              shift, and go to state 113
              shift, and go to state 114
   T POWEROP
              [reduce using rule 67 (expression)]
   T ANDOP
   T MULOP
              [reduce using rule 67 (expression)]
              [reduce using rule 67 (expression)]
   T DIVOP
   T POWEROP [reduce using rule 67 (expression)]
              reduce using rule 67 (expression)
   $default
```

```
State 153
   64 expression: expression • T OROP expression
                expression • T ANDOP expression
   66
                expression • T RELOP expression
   67
                | expression • T_ADDOP expression
                | expression • T MULOP expression
   68
                | expression T MULOP expression •
   68
   69
                | expression • T DIVOP expression
   70
                expression • T POWEROP expression
              shift, and go to state 108
   T OROP
   T ANDOP
              shift, and go to state 109
               shift, and go to state 110
   T RELOP
               shift, and go to state 111
    T ADDOP
              shift, and go to state 112
   T MULOP
              shift, and go to state 113
   T DIVOP
   T POWEROP
              shift, and go to state 114
    T OROP
               [reduce using rule 68 (expression)]
               [reduce using rule 68 (expression)]
   T ANDOP
               [reduce using rule 68 (expression)]
    T RELOP
               [reduce using rule 68 (expression)]
   T ADDOP
               [reduce using rule 68 (expression)]
   T MULOP
   T DIVOP
              [reduce using rule 68 (expression)]
    T POWEROP
              [reduce using rule 68 (expression)]
              reduce using rule 68 (expression)
    $default
```

```
State 154
  64 expression: expression • T OROP expression
  65
                expression • T ANDOP expression
  66
                | expression • T RELOP expression
                expression • T ADDOP expression
  67
  68
                | expression • T_MULOP expression
                expression • T DIVOP expression
  69
                | expression T DIVOP expression •
  69
  70
                expression • T POWEROP expression
               shift, and go to state 108
   T OROP
   T ANDOP
               shift, and go to state 109
   T RELOP
               shift, and go to state 110
   T ADDOP
               shift, and go to state 111
               shift, and go to state 112
   T MULOP
   T DIVOP
               shift, and go to state 113
              shift, and go to state 114
   T POWEROP
               [reduce using rule 69 (expression)]
   T OROP
               [reduce using rule 69 (expression)]
   T ANDOP
               [reduce using rule 69 (expression)]
   T RELOP
               [reduce using rule 69 (expression)]
   T ADDOP
   T MULOP
               [reduce using rule 69 (expression)]
   T DIVOP
               [reduce using rule 69 (expression)]
   T POWEROP [reduce using rule 69 (expression)]
               reduce using rule 69 (expression)
    $default
```

```
State 155
  64 expression: expression • T OROP expression
               expression • T ANDOP expression
  66
                expression • T RELOP expression
                expression • T ADDOP expression
  67
                expression • T MULOP expression
  68
  69
               | expression • T DIVOP expression
  70
                expression • T POWEROP expression
  70
                | expression T POWEROP expression •
   T OROP
              shift, and go to state 108
   T_ANDOP
T_RELOP
T_ADDOP
T_MULOP
T_DIVOP
              shift, and go to state 109
              shift, and go to state 110
              shift, and go to state 111
              shift, and go to state 112
              shift, and go to state 113
   T POWEROP shift, and go to state 114
              [reduce using rule 70 (expression)]
   T OROP
   T ANDOP
              [reduce using rule 70 (expression)]
   T_RELOP [reduce using rule 70 (expression)]
   T ADDOP
              [reduce using rule 70 (expression)]
              [reduce using rule 70 (expression)]
   T MULOP
   T_DIVOP
              [reduce using rule 70 (expression)]
   T POWEROP [reduce using rule 70 (expression)]
   $default reduce using rule 70 (expression)
```

Όλες οι συγκρούσεις λύθηκαν χρησιμοποιώντας προτεραιότητα και προσαρμοστικότητα.

```
%left T_OROP T_ANDOP
%left T_RELOP
%left T_ADDOP T_MULOP T_DIVOP T_POWEROP T_NOTOP
```