For all runs the program arguments are: -f test.txt -l -a -v

**Error 1: Use = instead of :=**

Input file:

const p := 2;

var x, y;

begin

end.

Output:

Source Program:

const p := 2;

var x, y;

begin

end.

Lexeme Table:

Lexeme Token Type

const 28

p 2

:= 20

2 3

; 18

var 29

x 2

, 17

y 2

; 18

begin 21

end 22

. 19

Lexeme List:

28 2 p 20 3 2 18 29 2 x 17 2 y 18 21 22 19

const\_sym ident\_sym p becomes\_sym num\_sym 2 semicol\_sym var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym end\_sym period\_sym

ERROR: Use = instead of :=.

Parser has encountered an error...

**Error 2: = must be followed by a number**

Input file:

const p = ;

var x, y;

begin

end.

Output:

Source Program:

const p = ;

var x, y;

begin

end.

Lexeme Table:

Lexeme Token Type

const 28

p 2

= 9

; 18

var 29

x 2

, 17

y 2

; 18

begin 21

end 22

. 19

Lexeme List:

28 2 p 9 18 29 2 x 17 2 y 18 21 22 19

const\_sym ident\_sym p eql\_sym semicol\_sym var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym end\_sym period\_sym

ERROR: = must be followed by a number.

Parser has encountered an error...

**Error 3: Identifier must be followed by =**

Input file:

const p 12;

var x, y;

begin

end.

Output:

Source Program:

const p 12;

var x, y;

begin

end.

Lexeme Table:

Lexeme Token Type

const 28

p 2

12 3

; 18

var 29

x 2

, 17

y 2

; 18

begin 21

end 22

. 19

Lexeme List:

28 2 p 3 12 18 29 2 x 17 2 y 18 21 22 19

const\_sym ident\_sym p num\_sym 12 semicol\_sym var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym end\_sym period\_sym

ERROR: Identifier must be followed by =.

Parser has encountered an error...

**Error 4: const, var, procedure must be followed by identifier**

Input file:

var

begin

x := y + 56;

end.

Output:

Source Program:

var

begin

x := y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

begin 21

x 2

:= 20

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 21 2 x 20 2 y 4 3 56 18 22 19

var\_sym begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: const, var, procedure must be followed by identifier.

Parser has encountered an error...

**Error 5: Semicolon or comma missing**

Input file:

var x, y

begin

x := y + 56;

end.

Output:

Source Program:

var x, y

begin

x := y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

, 17

y 2

begin 21

x 2

:= 20

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 2 x 17 2 y 21 2 x 20 2 y 4 3 56 18 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: Semicolon or comma missing.

Parser has encountered an error...

**Error 7: Statement expected**

Input file:

const p = 12;

var x, y;

begin

end.

Output:

Source Program:

const p = 12;

var x, y;

begin

end.

Lexeme Table:

Lexeme Token Type

const 28

p 2

= 9

12 3

; 18

var 29

x 2

, 17

y 2

; 18

begin 21

end 22

. 19

Lexeme List:

28 2 p 9 3 12 18 29 2 x 17 2 y 18 21 22 19

const\_sym ident\_sym p eql\_sym num\_sym 12 semicol\_sym var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym end\_sym period\_sym

ERROR: Statement expected.

Parser has encountered an error...

**Error 8: Incorrect symbol after statement part in block**

Input file:

var x;

begin.

end.

Output:

Source Program:

var x;

begin.

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

; 18

begin 21

. 19

end 22

. 19

Lexeme List:

29 2 x 18 21 19 22 19

var\_sym ident\_sym x semicol\_sym begin\_sym period\_sym end\_sym period\_sym

ERROR: Incorrect symbol after statement part in block.

Parser has encountered an error...

**Error 11: Undeclared identifier**

Input file:

var y;

begin

x := y + 56;

end.

Output:

Source Program:

var y;

begin

x := y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

y 2

; 18

begin 21

x 2

:= 20

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 2 y 18 21 2 x 20 2 y 4 3 56 18 22 19

var\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: Undeclared identifier.

Parser has encountered an error...

**Error 12: Assignment to constant or procedure is not allowed**

Input file:

const p = 12;

var x, y;

begin

x := y + 56;

p := x;

end.

Output:

Source Program:

const p = 12;

var x, y;

begin

x := y + 56;

p := x;

end.

Lexeme Table:

Lexeme Token Type

const 28

p 2

= 9

12 3

; 18

var 29

x 2

, 17

y 2

; 18

begin 21

x 2

:= 20

y 2

+ 4

56 3

; 18

p 2

:= 20

x 2

; 18

end 22

. 19

Lexeme List:

28 2 p 9 3 12 18 29 2 x 17 2 y 18 21 2 x 20 2 y 4 3 56 18 2 p 20 2 x 18 22 19

const\_sym ident\_sym p eql\_sym num\_sym 12 semicol\_sym var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym ident\_sym p becomes\_sym ident\_sym x semicol\_sym end\_sym period\_sym

ERROR: Assignment to constant or procedure is not allowed.

Parser has encountered an error...

**Error 16: then expected**

Input file:

var x, y;

begin

x:= 4;

y:= 5;

if y > x

y:= y + 1;

end.

Output:

Source Program:

var x, y;

begin

x:= 4;

y:= 5;

if y > x

y:= y + 1;

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

, 17

y 2

; 18

begin 21

x 2

:= 20

4 3

; 18

y 2

:= 20

5 3

; 18

if 23

y 2

> 13

x 2

y 2

:= 20

y 2

+ 4

1 3

; 18

end 22

. 19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 20 3 4 18 2 y 20 3 5 18 23 2 y 13 2 x 2 y 20 2 y 4 3 1 18 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym num\_sym 4 semicol\_sym ident\_sym y becomes\_sym num\_sym 5 semicol\_sym if\_sym ident\_sym y gtr\_sym ident\_sym x ident\_sym y becomes\_sym ident\_sym y plus\_sym num\_sym 1 semicol\_sym end\_sym period\_sym

ERROR: then expected.

Parser has encountered an error...

**Error 18: do expected**

Input file:

var x, y

begin

x := y + 56;

end.

Output:

Source Program:

var x, y;

begin

 x := y + 56;

while x > y

 begin

 end

end.

Lexeme Table:

Lexeme          Token Type

var             29

x               2

,               17

y               2

;               18

begin           21

x               2

:=              20

y               2

+               4

56              3

;               18

while           25

x               2

>               13

y               2

begin           21

end             22

end             22

.               19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 20 2 y 4 3 56 18 25 2 x 13 2 y 21 22 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym while\_sym ident\_sym x gtr\_sym ident\_sym y begin\_sym end\_sym end\_sym period\_sym

ERROR: do expected.

Parser has encountered an error...

**Error 20: Relational operator expected**

Input file:

var x, y;

begin

 x := y + 56;

while x y

 begin

 end

end.

Output:

Source Program:

var x, y;

begin

 x := y + 56;

while x y

 begin

 end

end.

Lexeme Table:

Lexeme          Token Type

var             29

x               2

,               17

y               2

;               18

begin           21

x               2

:=              20

y               2

+               4

56              3

;               18

while           25

x               2

y               2

begin           21

end             22

end             22

.               19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 20 2 y 4 3 56 18 25 2 x 2 y 21 22 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym while\_sym ident\_sym x ident\_sym y begin\_sym end\_sym end\_sym period\_sym

ERROR: Relational operator expected.

Parser has encountered an error...

**Error 22: Right parenthesis missing**

Input file:

var x, y;

begin

x := (y + 56;

end.

Output:

Source Program:

var x, y;

begin

x := (y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

, 17

y 2

; 18

begin 21

x 2

:= 20

( 15

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 20 15 2 y 4 3 56 18 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym lparent\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: Right parenthesis missing.

Parser has encountered an error...

**Error 23: The preceding factor cannot begin with this symbol**

Input file:

var x, y;

begin

x := =y + 56;

end.

Output:

Source Program:

var x, y;

begin

x := =y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

, 17

y 2

; 18

begin 21

x 2

:= 20

= 9

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 20 9 2 y 4 3 56 18 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x becomes\_sym eql\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: The preceding factor cannot begin with this symbol.

**Error 25: This number is too large**

Input file:

var x;

begin

x := 999999;

end.

Output:

Error: Number [99999] at 3:7 exceeds max size...

ERROR: Unexpected end of file.

Parser has encountered an error...

**Error 26: Unexpected end of file**

Input file:

var x;

begin

x := 999999;

end.

Output:

Error: Number [99999] at 3:7 exceeds max size...

ERROR: Unexpected end of file.

Parser has encountered an error...

**Error 27: := expected**

Input file:

var x, y;

begin

x = y + 56;

end.

Output:

Source Program:

var x, y;

begin

x = y + 56;

end.

Lexeme Table:

Lexeme Token Type

var 29

x 2

, 17

y 2

; 18

begin 21

x 2

= 9

y 2

+ 4

56 3

; 18

end 22

. 19

Lexeme List:

29 2 x 17 2 y 18 21 2 x 9 2 y 4 3 56 18 22 19

var\_sym ident\_sym x comma\_sym ident\_sym y semicol\_sym begin\_sym ident\_sym x eql\_sym ident\_sym y plus\_sym num\_sym 56 semicol\_sym end\_sym period\_sym

ERROR: := expected.

Parser has encountered an error...

**Error 28: Symbol max exceeded**

Input file:

var xdefdsafs22222aaa, y;

begin

x := y + 56;

end.

Output:

Error: Identifier [xdefdsafs22] at 1:4 exceeds max size...

Lexigraphical Analyzer has encountered an error...