Tip：

程序存储identifier时，将所有的identifier都存放在父节点，对于 Reference --> [ { **identifier ::** } ] identifier中的可有可无的identifier，在逻辑上保存为Reference的子树，但在实际安排中，也将其存放到父节点上，以便节约空间。

**测试方案**

采用词法分析程序输出的tokenOut.txt中的文件进行测试。由于实验一中仅有test1.txt无语法错误，故用test1.txt的词法分析结果进行语法分析测试。

将tokenOut.txt放置于工程目录下，执行程序，输出结果也在同一目录下。

test1.txt词法分析结果如下（可见文件中的tokenOut.txt）：

thread -> thread

identifier -> Thread1

features -> features

identifier -> AP\_Position\_Input

assign -> :

in -> in

event -> event

data -> data

port -> port

identifier -> Nav\_Types

assign -> ::

identifier -> Position\_GPS

assign -> ;

flows -> flows

identifier -> flow1

assign -> :

flow -> flow

path -> path

identifier -> signal

assign -> ->

identifier -> result1

assign -> ;

properties -> properties

identifier -> dispatch\_protocol

assign -> =>

access -> access

Digit -> 50.0

assign -> ;

end -> end

identifier -> Thread1

assign -> ;

thread -> thread

identifier -> Thread\_2

features -> features

identifier -> AP\_Position\_Input

assign -> :

in -> in

data -> data

port -> port

identifier -> Nav\_Types1

assign -> ::

identifier -> Nav\_Types2

assign -> ::

identifier -> Position\_GPS

assign -> ;

flows -> flows

identifier -> flow1

assign -> :

flow -> flow

source -> source

identifier -> signal

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> +=>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

properties -> properties

none -> none

assign -> ;

end -> end

identifier -> Thread\_2

assign -> ;

thread -> thread

identifier -> Thread3d

features -> features

identifier -> AP\_Position\_Input

assign -> :

out -> out

data -> data

port -> port

identifier -> Nav\_Types1

assign -> ::

identifier -> Nav\_Types2

assign -> ::

identifier -> Position\_GPS

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> +=>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

flows -> flows

identifier -> flow1

assign -> :

flow -> flow

sink -> sink

identifier -> signal

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> +=>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

properties -> properties

identifier -> size

assign -> =>

constant -> constant

access -> access

Digit -> 50.0

assign -> ;

end -> end

identifier -> Thread3d

assign -> ;

thread -> thread

identifier -> Thread4

features -> features

identifier -> AP\_Position\_Input

assign -> :

in -> in

out -> out

parameter -> parameter

identifier -> Nav\_Types1

assign -> ::

identifier -> Nav\_Types2

assign -> ::

identifier -> Position\_GPS

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> =>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

flows -> flows

identifier -> flow1

assign -> :

flow -> flow

sink -> sink

identifier -> signal

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> +=>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

properties -> properties

identifier -> size

assign -> =>

constant -> constant

access -> access

Digit -> -50.0

assign -> ;

end -> end

identifier -> Thread4

assign -> ;

thread -> thread

identifier -> Thread5

features -> features

identifier -> AP\_Position\_Input

assign -> :

in -> in

out -> out

event -> event

port -> port

assign -> ;

flows -> flows

identifier -> flow1

assign -> :

flow -> flow

sink -> sink

identifier -> signal

assign -> {

identifier -> result1

assign -> ::

identifier -> result2

assign -> +=>

constant -> constant

access -> access

Digit -> 50.0

assign -> }

assign -> ;

properties -> properties

identifier -> size

assign -> =>

constant -> constant

access -> access

Digit -> 50.0

assign -> ;

end -> end

identifier -> Thread5

assign -> ;

thread -> thread

identifier -> Thread6

features -> features

none -> none

assign -> ;

flows -> flows

none -> none

assign -> ;

properties -> properties

none -> none

assign -> ;

end -> end

identifier -> Thread6

assign -> ;

将此序列作为语法分析的输入，对程序进行测试，程序未发现错误，执行结果见文件中的SyntaxOut.txt。