

Μεταγλωττιστές 2019
Προγραμματιστική Εργασία #2

Ονοματεπώνυμο : Αποστολόπουλος Ηλίας
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ΚΑΝΟΝΕΣ ΓΡΑΜΜΑΤΙΚΗΣ

Grammar	
Stmt_list →	Stmt Stmt_list .
Stmt →	id equal Expr print Expr.
Expr →	Term Term_tail.
Term_tail →	xor Term Term_tail | .
Term →	Factor Factor_tail.
Factor_tail →	or Factor Factor_tail | .
Factor →	Atom Atom_tail.
Atom_tail →	and Atom Atom_tail | .
Atom →	(Expr ) | id bit.

ΑΠΟΤΕΛΕΣΜΑΤΑ ΕΛΕΓΧΟΥ ΓΙΑ LL(1) ΣΥΜΒΑΤΟΤΗΤΑ

- All nonterminals are reachable and realizable.
- The nullable nonterminals are: Stmt_list Term_tail Factor_tail Atom_tail.
- The endable nonterminals are: Atom_tail Atom Factor_tail Factor Term_tail Term Expr Stmt_list Stmt.
- No cycles.

nonterminal	first set	follow set	nullable	endable
Stmt_list	id print	∅	yes	yes
Stmt	id print	id print	no	yes
Term_tail	xor	) id print	yes	yes
Term	(id bit	) xor id print	no	yes
Factor_tail	or	) xor id print	yes	yes
Factor	(id bit	) or xor id print	no	yes
Atom_tail	and	) or xor id print	yes	yes
Atom	(id bit	) and or xor id print	no	yes
Expr	(id bit	) id print	no	yes

The grammar is LL(1).

ΠΙΝΑΚΕΣ ΜΕ FIRST ΚΑΙ FOLLOW ΣΕΤ ΓΙΑ ΜΗ ΤΕΡΜΑΤΙΚΑ ΣΥΜΒΟΛΑ

first set	follow set
id print	∅
id print	id print
xor	) id print
(id bit	) xor id print
or	) xor id print
(id bit	) or xor id print
and	) or xor id print
(id bit	) and or xor id print
(id bit	) id print

ΕΓΚΥΡΗ ΕΙΣΟΔΟΣ

```
1 a = 100101 AND 100100
2 print (a)
```

bash - "ubuntu@ x Baby.java - Idle x ergsaia.py - Idle x compilers/runner x +

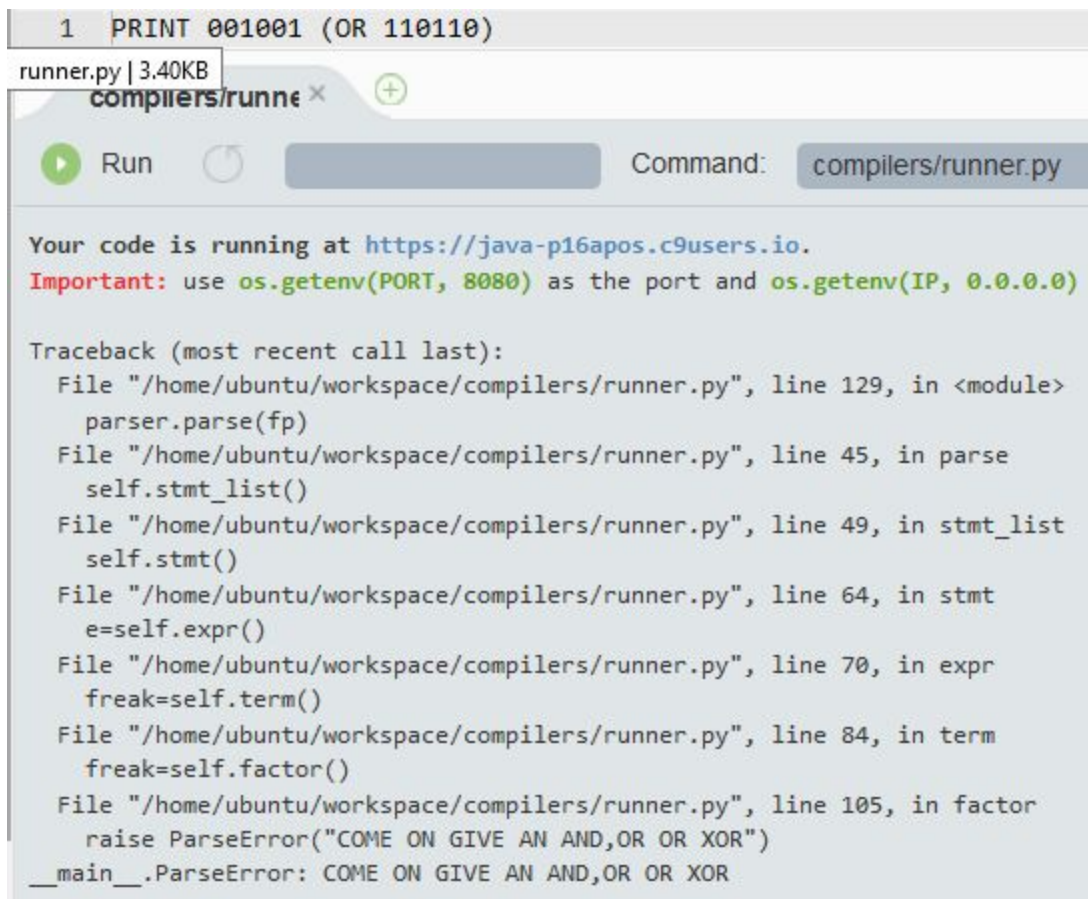
Run Command: compilers/runner.py

Your code is running at <https://java-p16apos.c9users.io>.
Important: use `os.getenv(PORT, 8080)` as the port and `os.getenv(IP, 0.0.0.0)` as the host in your scripts!

100100

Process exited with code: 0

ΑΚΥΡΗ ΕΙΣΟΔΟΣ



The screenshot shows a web browser window with a tab titled "compilers/runner.py". The address bar shows the URL "https://java-p16apos.c9users.io". The page content includes a "Run" button and a "Command" field containing "compilers/runner.py". Below the run button, a message states: "Your code is running at https://java-p16apos.c9users.io. Important: use os.getenv(PORT, 8080) as the port and os.getenv(IP, 0.0.0.0)". The main area displays a traceback for a `ParseError` that occurred in `runner.py` at line 105, with the message "COME ON GIVE AN AND,OR OR XOR".

```
1 PRINT 001001 (OR 110110)

runner.py | 3.40KB

compilers/runner.py x +

Run Command: compilers/runner.py

Your code is running at https://java-p16apos.c9users.io.
Important: use os.getenv(PORT, 8080) as the port and os.getenv(IP, 0.0.0.0)

Traceback (most recent call last):
  File "/home/ubuntu/workspace/compilers/runner.py", line 129, in <module>
    parser.parse(fp)
  File "/home/ubuntu/workspace/compilers/runner.py", line 45, in parse
    self.stmt_list()
  File "/home/ubuntu/workspace/compilers/runner.py", line 49, in stmt_list
    self.stmt()
  File "/home/ubuntu/workspace/compilers/runner.py", line 64, in stmt
    e=self.expr()
  File "/home/ubuntu/workspace/compilers/runner.py", line 70, in expr
    freak=self.term()
  File "/home/ubuntu/workspace/compilers/runner.py", line 84, in term
    freak=self.factor()
  File "/home/ubuntu/workspace/compilers/runner.py", line 105, in factor
    raise ParseError("COME ON GIVE AN AND,OR OR XOR")
__main__.ParseError: COME ON GIVE AN AND,OR OR XOR
```

ΠΗΓΕΣ

<http://smlweb.cpsc.ucalgary.ca/start.html>