

به نام خدا

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سوال 2) فایل گرامر در zip موجود است. عکس های parse tree و accept کردن حالت های مختلفی که پای تخته نوشته بود.

The screenshot shows an IDE window titled 'Midterm - email\_grammar.g4'. The left sidebar displays the project structure with 'Midterm' as the root, containing 'grammar' and 'email\_grammar.g4'. The main editor shows the grammar rules for 'email\_grammar.g4':

```
1 grammar email_grammar;  
2  
3 compilationUnit: EMAIL EOF;  
4  
5 EMAIL:  
6     Loc ( '.' Loc )* '@' Dom ( '.' Dom )+;  
7  
8 fragment Loc :  
9     [a-zA-Z0-9!$&()*+,;=:_~]+;  
10  
11 fragment Dom :  
12     [a-zA-Z0-9-]+;
```

Below the editor is the 'ANTLR Preview' section. It shows the start rule 'compilationUnit' and the input 'Shayan@gmail.com'. The 'Parse tree' tab is active, displaying a tree structure where 'compilationUnit' branches into 'EMAIL' and '<EOF>'. 'EMAIL' further branches into 'Loc' and 'Dom', which correspond to the input string.

This screenshot is similar to the first one, but the input in the 'ANTLR Preview' section is 'Shayan.mo@gmail.com'. The grammar rules remain the same. The 'Parse tree' tab shows the updated tree structure, where 'EMAIL' branches into 'Loc' and 'Dom', reflecting the new input string.

grammar

- email\_grammar.g4
- venv library root
- External Libraries
- Scratches and Consoles

```
3 compilationUnit: EMAIL EOF;
4
5 EMAIL:
6   Loc ( '.' Loc)* '@' Dom ( '.' Dom)+;
7
8 fragment Loc :
9   [a-zA-Z0-9!$&()*+,;=:_~]+;
10
11 fragment Dom :
12   [a-zA-Z0-9-]+;
```

ANTLR Preview

email\_grammar.g4 start rule: compilationUnit

Input File

1 Sh\_mo@gmail.com

Parse tree Hierarchy Profiler

compilationUnit

EMAIL: Sh\_mo@gmail.com <EOF>

grammar

- email\_grammar.g4
- venv library root
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```
1 grammar email_grammar;
2
3 compilationUnit: EMAIL EOF;
4
5 EMAIL:
6   Loc ( '.' Loc)* '@' Dom ( '.' Dom)+;
7
8 fragment Loc :
9   [a-zA-Z0-9!$&()*+,;=:_~]+;
10
11 fragment Dom :
12   [a-zA-Z0-9-]+;
```

ANTLR Preview

email\_grammar.g4 start rule: compilationUnit

Input File

1 Sh\_mo@comp.iust.ac.ir

Parse tree Hierarchy Profiler

compilationUnit

EMAIL: Sh\_mo@comp.iust.ac.ir <EOF>