Programming Language Translation

Tutorial Week 4 – LL(1) compliance and ambiguity

This week's tutorial gives you more practice in checking LL(1) compliance and reasoning about ambiguity and LL(1) compliance. Even though the grammars might have been covered in the lectures, it is a good idea for you to see exactly what needs to be done to check compliance.

You can find the source for these grammars on the RUConnected page in the file TUT4.ZIP.

1. Grammar A

Is the following grammar LL(1) compliant? If not, why not? Ensure you check both Rules 1 and 2 for compliance.

```
COMPILER A $TF

  PRODUCTIONS
    A = B ( "x" | "z" ) ( "w" | "z" ) B .
    B = "x" B "z" |  "y"  .

END A.
```

2. Grammar S

Is the following grammar LL(1) compliant? If not, why not? Ensure you check both Rules 1 and 2 for compliance.

```
COMPILER S $FT

  PRODUCTIONS
    S = A | B .
    A = C D | D "f" .
    B = "d" | "e" .
    C =  "a" | [ "b" ] .
    D =  "c" | "e"  .

END S.
```