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Exercise 1:

|  |  |
| --- | --- |
| S ⇨ A B  S ⇨ A id id  S ⇨ id id id  S ⇨ a b c | S ⇨ A B  S ⇨ id B id  S ⇨ id id id  S ⇨ a b c |

Exercise 2:

|  |  |
| --- | --- |
| S Left Recursion Elimination | B Left Recursion Elimination |
| S ⇨ SaA | bB  donc  S ⇨ bBS’  S’ ⇨ Ɛ | aAS’ | B ⇨ Bb | d  donc  B ⇨ dB’  B’ ⇨ Ɛ | bB’ |

Donc grammaire est:

S ⇨ bBS’

S’ ⇨ Ɛ | aAS’

A ⇨ aB | c

B ⇨ dB’

B’ ⇨ Ɛ | bB’

Exercise 3:

|  |  |
| --- | --- |
| A Left Factoring | B Left Factoring |
| A ⇨ bA | bB  donc  A ⇨ bA’  A’ ⇨ A | B | B ⇨ cB | c  Donc  B ⇨ cB’  B’ ⇨ Ɛ | B |

Donc grammaire est:

S ⇨ aA | bB

A ⇨ bA’

A’ ⇨ A | B

B ⇨ cB’

B’ ⇨ Ɛ | B

Exercise 4:

|  |  |  |
| --- | --- | --- |
|  | First | Follow |
| bexpr → bterm A’ | {bterm} | {$} |
| A’ → or bterm A’ | ε | {or, ε} | {$} |
| bterm → bfactor B’ | {bfactor} | {or, $} |
| B’ → and bfactor B’ | ε | {and, ε} | {or, $} |
| bfactor → not bfactor | (bexpr) | true | false | {not, bexpr, true, false} | {and, or, $} |

Exercise 5:

|  |  |  |
| --- | --- | --- |
|  | First | Follow |
| A⇨ BC | bA | {a,c,b} | {$} |
| B ⇨ a | Ɛ | {a} | {c} |
| C ⇨ cBc | {c} | {$} |