Experiment 5 :

Ex: $E \to E+T \mid T$
$T \to T*F \mid F$
$F \to (E) \mid id$

This Grammer contains left recursion because $E \to E$ & $T \to T$ is there

But it doesn't contain factoring because it doesn't contain $A \to \alpha_1 A$
$A \to \alpha_2 A$
$B \to \alpha_1 B$
$B \to \alpha_2 B$

Remove the left recursion by adding E' and T'. then the Grammer will become

$E \to TE'$
$E' \to +TE' \mid \varepsilon$
$T \to FT'$
$T' \to *FT' \mid \varepsilon$
$F \to (E) \mid id$

first

first (E) = { (, id }
first (E') = { +, ε }
first (T) = { (, id }
fist (T') = { *, ε }
first (F) = { (, id }

follow

follow (E) = {), ~~id~~ $ }
follow (E') = {), $ }
follow (T) = { +,), $ }
follow (T') = { +,), $ }

follow(F) = {*, +,), $}

parse table

	id	+	*	(	)	$
E	$E \to TE'$			$E \to TE'$		
E'		$E' \to +TE'$			$E' \to \varepsilon$	$E' \to \varepsilon$
T	$T \to FT'$			$T \to FT'$		
T'		$T' \to \varepsilon$	$T' \to *FT'$		$T' \to \varepsilon$	$T' \to \varepsilon$
F	$F \to id$			$F \to (E)$		