

Aim: Code to remove left Recursion

Input 1:

E->E+T|T

T->T*F|F

F->(E)|i

Output1:

```
D:\Semester7\CD_Lab\CD_Lab4_17CS01003>a.exe
Enter number of productions:3
Certain conditions for entering:
1.Nonterminals are single Capital alphabet and terminals are single lowercase alphabet
2.No space in defining production

Enter each production on a new line without space(E->E+T|T):
E->E+T|T
T->T*F|F
F->(E)|i

Looking into :E->E+T|T
Left recursion found!!
The production will be replaced as follows:
E->TZ
Z->+TZ|e

Looking into :T->T*F|F
Left recursion found!!
The production will be replaced as follows:
T->FY
Y->*FY|e

Looking into :F->(E)|i
No left recursion in the production F->(E)|i

Updated Productions:
E->TZ
T->FY
F->(E)|i
Z->+TZ|e
Y->*FY|e
```

Input 2:

A->Aa|Ab|c

Output2:

```
D:\Semester7\CD_Lab\CD_Lab4_17CS01003>a.exe
Enter number of productions:1
Certain conditions for entering:
1.Nonterminals are single Capital alphabet and terminals are single lowercase alphabet
2.No space in defining production

Enter each production on a new line without space(E->E+T|T):
A->Aa|Ab|c

Looking into :A->Aa|Ab|c
Left recursion found!!
The production will be replaced as follows:
A->cZ
Z->aZ|bZ|e

Updated Productions:
A->cZ
Z->aZ|bZ|e
```

Input3:

A->ABc|Ad|Aa

Output3:

```
D:\Semester7\CD_Lab\CD_Lab4_17CS01003>a.exe
Enter number of productions:1
Certain conditions for entering:
1.Nonterminals are single Capital alphabet and terminals are single lowercase alphabet
2.No space in defining production

Enter each production on a new line without space(E->E+T|T):
A->ABc|Ad|Aa

Looking into :A->ABc|Ad|Aa
The production can't terminate.Illegalproduction!!

Updated Productions:
A->ABc|Ad|Aa
```

Input4:

A->Abc|Abd|f|g

Output4:

```
D:\Semester7\CD_Lab\CD_Lab4_17CS01003>a.exe
Enter number of productions:1
Certain conditions for entering:
1.Nonterminals are single Capital alphabet and terminals are single lowercase alphabet
2.No space in defining production

Enter each production on a new line without space(E->E+T|T):
A->Abc|Abd|f|g

Looking into :A->Abc|Abd|f|g
Left recursion found!!
The production will be replaced as follows:
A->fZ|gZ
Z->bcZ|bdZ|e

Updated Productions:
A->fZ|gZ
Z->bcZ|bdZ|e
```