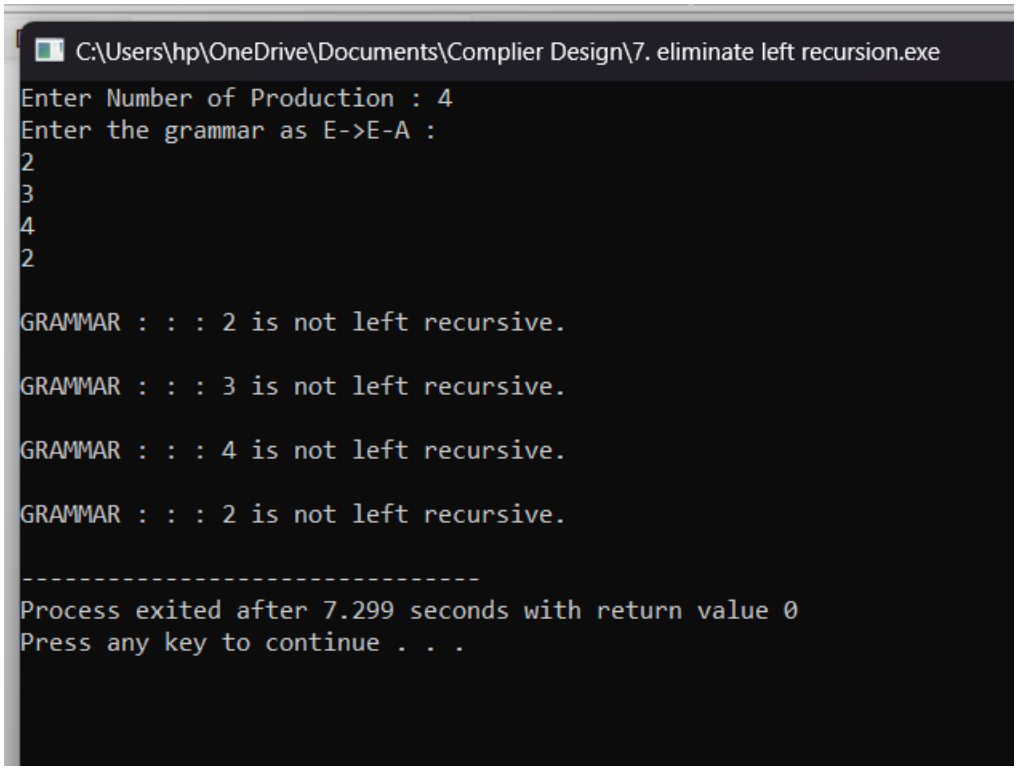
7. eliminate left recursion

```
#include<stdio.h>
 #include<string.h>
 #define SIZE 10
 int main () {
     char non_terminal;
     char beta,alpha;
      int num;
     char production[10][SIZE];
     int index=3; /* starting of the string following "->" */
     printf("Enter Number of Production : ");
     scanf("%d",&num);
     printf("Enter the grammar as E->E-A :\n");
     for(int i=0;i<num;i++){
         scanf("%s",production[i]);
     }
     for(int i=0;i<num;i++){
         printf("\nGRAMMAR : : : %s",production[i]);
         non_terminal=production[i][0];
         if(non_terminal==production[i][index]) {
             alpha=production[i][index+1];
             printf(" is left recursive.\n");
             while(production[i][index]!=0 && production[i][index]!='|')
                 index++;
             if(production[i][index]!=0) {
                 beta=production[i][index+1];
                 printf("Grammar without left recursion:\n");
                 printf("%c->%c%c\'",non_terminal,beta,non_terminal);
                 printf("\n%c\'->%c%c\'|E\n",non_terminal,alpha,non_terminal);
             }
             else
                 printf(" can't be reduced\n");
         }
         else
             printf(" is not left recursive.\n");
         index=3;
     }
 }
```

OUTPUT:


C:\Users\hp\OneDrive\Documents\Complier Design\7. eliminate left recursion.exe
Enter Number of Production : 4
Enter the grammar as E->E-A :
2
3
4
2
GRAMMAR : : : 2 is not left recursive.
GRAMMAR : : : 3 is not left recursive.
GRAMMAR : : : 4 is not left recursive.
GRAMMAR : : : 2 is not left recursive.

Process exited after 7.299 seconds with return value 0
Press any key to continue . . .