Exp. No. 10

Implement a C program to eliminate left factoring from a given CFG.

S → iEtS / iEtSeS / a
E → b

Program:

```
#include<stdio.h>
#include<string.h>
  int main()
  {
     char
gram[20],part1[20],part2[20],modifiedGram[20],newGram[20],tempGram[20];
     int i,j=0,k=0,l=0,pos;
     printf("Enter Production : S->");
     gets(gram);
     for(i=0;gram[i]!='|';i++,j++)
        part1[j]=gram[i];
     part1[j]='\0';
     for(j=++i,i=0;gram[j]!='\0';j++,i++)
        part2[i]=gram[j];
     part2[i]='\0';
     for(i=0;i<strlen(part1)||i<strlen(part2);i++)
     {
        if(part1[i]==part2[i])
        {
           modifiedGram[k]=part1[i];
           k++;
           pos=i+1;
        }
     }
     for(i=pos,j=0;part1[i]!='\0';i++,j++){
        newGram[j]=part1[i];
     }
     newGram[j++]='|';
     for(i=pos;part2[i]!='\0';i++,j++){
```

```
        newGram[j]=part2[i];
    }
    modifiedGram[k]='X';
    modifiedGram[++k]='\0';
    newGram[j]='\0';
    printf("\n S->%s",modifiedGram);
    printf("\n X->%s\n",newGram);
}
```

OUTPUT: