

Exp. No. 10

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

$S \rightarrow iEtS / iEtSeS / a$

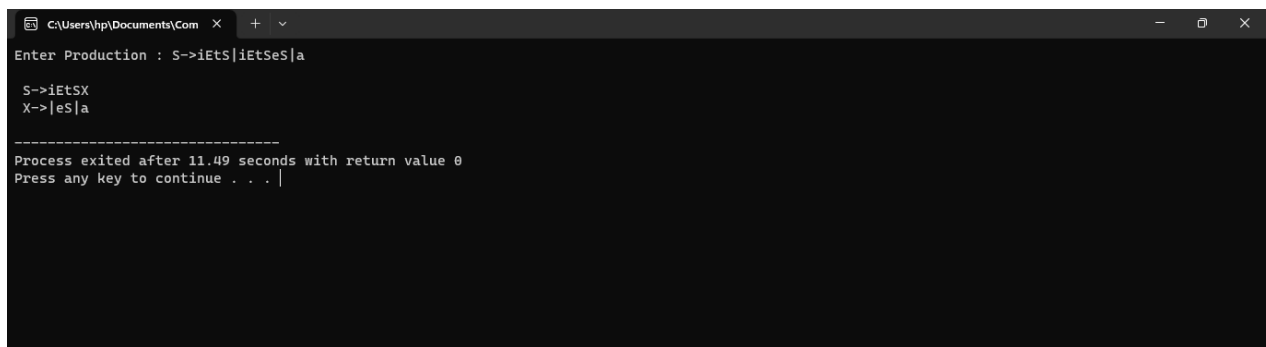
$E \rightarrow b$

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]!='\0';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++]='\0';
    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:



```
C:\Users\hp\Documents\Com  x  +  v
Enter Production : S->iEtS|iEtSe|a
S->iEtSX
X->|eS|a

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Process exited after 11.49 seconds with return value 0
Press any key to continue . . . |
```