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#include<stdio.h>
#include<math.h>
#include<string.h>
#include<ctype.h>
#include<stdlib.h>

int n,m=0,p,i=0,j=0;
char a[10][10],f[10];
void follow(char c);
void first(char c);

int main(){
    int i,z;
    char c,ch;
    //clrscr();
    printf("Enter the no of prooductions:\n");
    scanf("%d",&n);
    printf("Enter the productions:\n");
    for(i=0;i<n;i++)
        scanf("%s%c",a[i],&ch);
    do{
        m=0;
        printf("Enter the elemets whose firsrt & follow is to be found:");
        scanf("%c",&c);
        first(c);
        printf("First(%c)={",c);
        for(i=0;i<m;i++)
            printf("%c",f[i]);
        printf("}\n");
        strcpy(f," ");
        //flushall();
        m=0;
        follow(c);
        printf("Follow(%c)={",c);
        for(i=0;i<m;i++)
            printf("%c",f[i]);
        printf("}\n");
        printf("Continue(0/1)?");
        scanf("%d%c",&z,&ch);
    }while(z==1);
    return(0);
}

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void first(char c)
{
    int k;
    if(!isupper(c))
        f[m++]=c;
    for(k=0;k<n;k++)
    {
        if(a[k][0]==c)
        {
            if(a[k][2]=='$')
                follow(a[k][0]);

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        else if(islower(a[k][2]))
            f[m++] = a[k][2];
        else
            first(a[k][2]);
    }
}

void follow(char c)
{
    if(a[0][0]==c)
        f[m++]='$';
    for(i=0;i<n;i++)
    {
        for(j=2;j<strlen(a[i]);j++)
        {
            if(a[i][j]==c)
            {
                if(a[i][j+1]!='\0')
                    first(a[i][j+1]);
                if(a[i][j+1]=='\0' && c!=a[i][0])
                    follow(a[i][0]);
            }
        }
    }
}

```