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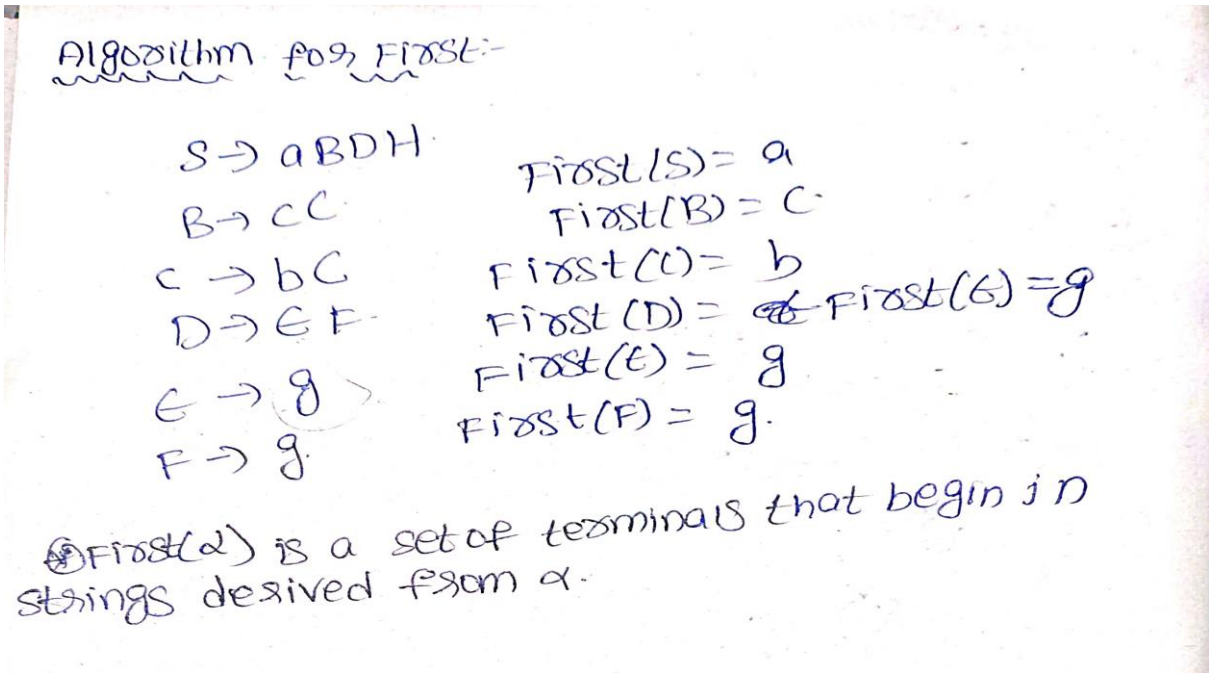
EXP-5 (COMPUTATION OF FIRST AND FOLLOW)
DATE:17/02/2022

COMPUTATION OF FIRST:

Aim: To Compute the First For the Given Productions

Algorithm:



CODE:

```
#include<stdio.h>
#include<string.h>
#include<ctype.h>
char gram[10][10],first[10];
int k=0,n;
void funcfirst(char g,int n)
{
   int i,j;
   if(!(isupper(g)))
       first[k++]=g;
   else
```

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```
    {
        for(i=0;i<n;i++)
        {
            if(gram[i][0]==g)
            {
                if(islower(gram[i][3]))
                    first[k++]=gram[i][3];
                else
                    funcfirst(gram[i][3],n);
            }
        }
    }
}
int main()
{
    char nt;
    printf("Enter No of Productions ");
    scanf("%d",&n);
    printf("Enter the Productions");
    for(int i=0;i<n;i++)
    {
        scanf("%s",gram[i]);
    }
    for(int i=0;i<n;i++)
    {
     k=0;
      funcfirst(gram[i][0],n);
    printf("First of of %c is {",gram[i][0]);
    for(int i=0;i<k;i++)
    {
        printf(" %c ",first[i]);
    }
    printf("}");
    printf("\n");
```

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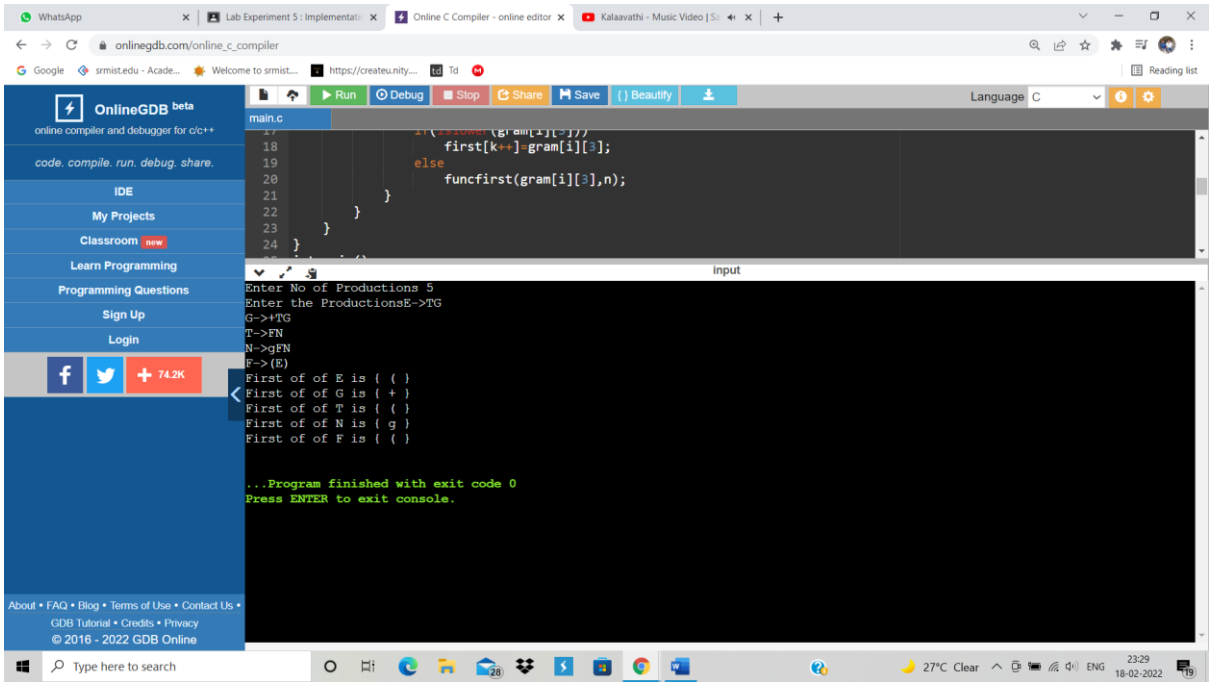
```
  }
  return 0;
}
```

OUTPUT:



RESULT: Hence First is Implemented.

COMPUTATION OF FOLLOW:

Aim: To Compute The Follow for given Grammer.

Algorithm:

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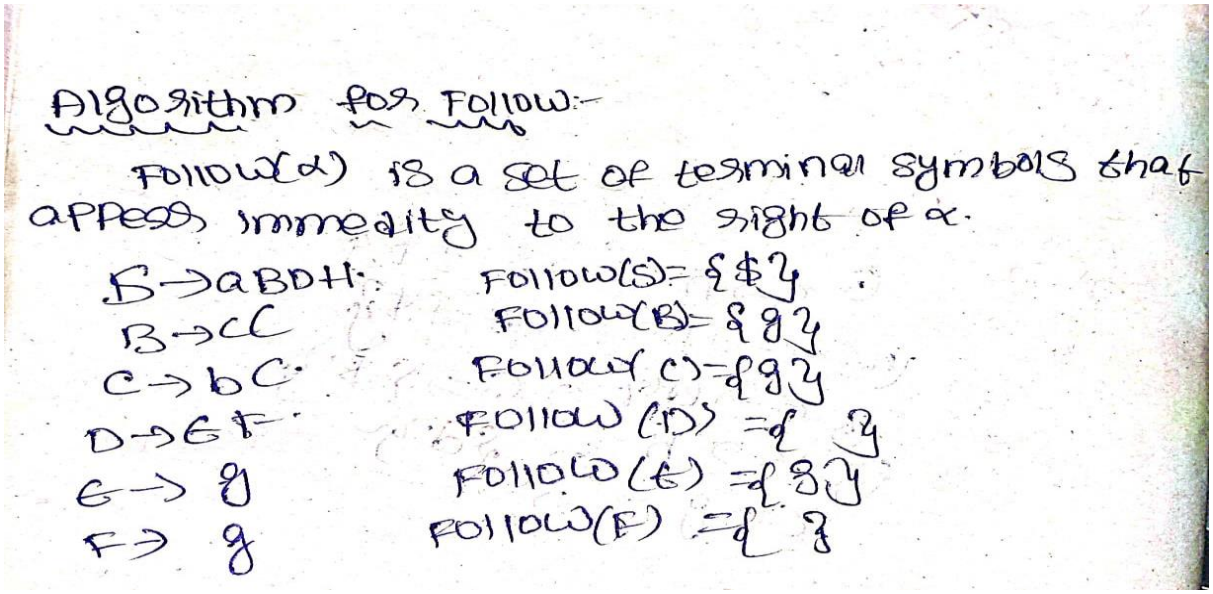

CODE:

```
#include<stdio.h>
#include<string.h>
#include<ctype.h>
char gram[10][10],res[10];
int k=0;
void first(char g,int n)
{
   if(!(isupper(g)))
      res[k++]=g;
   else
   {
      for(int i=0;i<n;i++)
      {
         if(gram[i][0]==g)
         {
            if(islower(gram[i][3]))
               res[k++]=gram[i][3];
            else
               first(gram[i][3],n);
         }
      }
```

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```
    }
}
void follow(char c,int n)
{
    if(gram[0][0]==c)
        res[k++]='$';
    for(int i=0;i<n;i++)
    {
        for(int j=3;j<strlen(gram[i]);j++)
        {
            if(gram[i][j]==c)
            {
                if(gram[i][j+1]!='\0')
                    first(gram[i][j+1],n);
                if(gram[i][j+1]=='\0' && c!=gram[i][0])
                    follow(gram[i][0],n);
            }
        }
    }
}
int main()
{
     char nt;
     int n;
     printf("Enter No of Productions ");
    scanf("%d",&n);
    printf("Enter the Productions");
    for(int i=0;i<n;i++)
    {
        scanf("%s",gram[i]);
    }
    for(int i=0;i<n;i++)
    {
      k=0;
```

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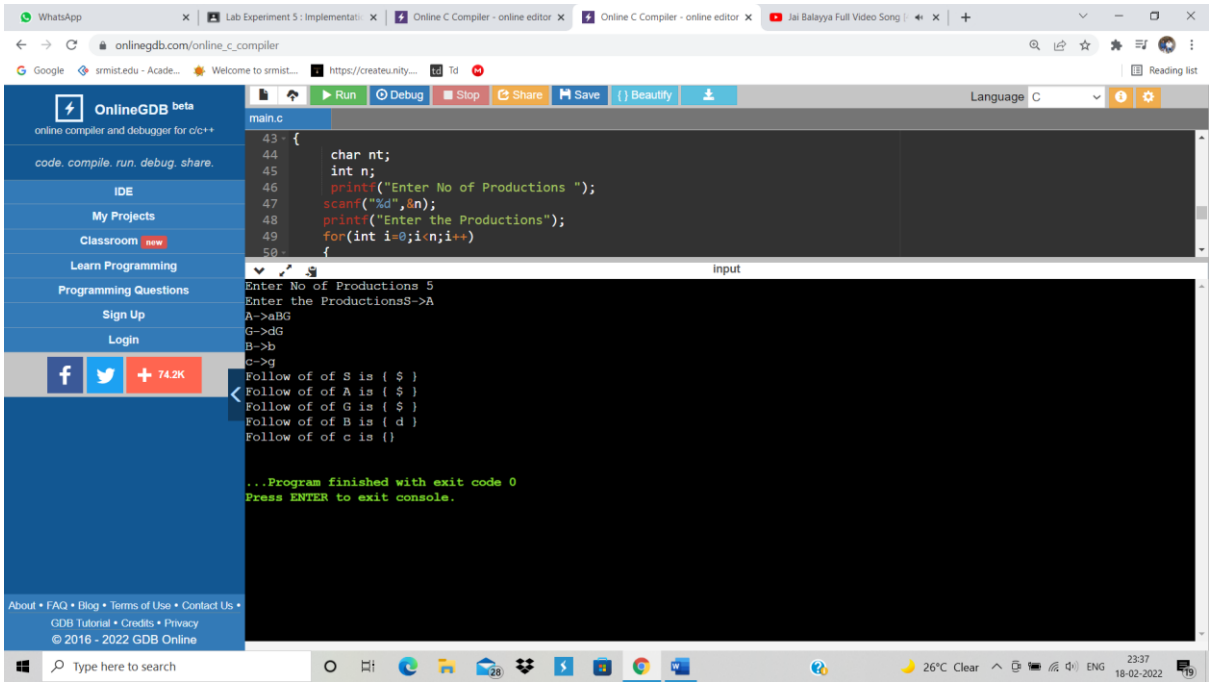
```
    follow(gram[i][0],n);
   printf("Follow of of %c is {",gram[i][0]);
   for(int i=0;i<k;i++)
   {
      printf(" %c ",res[i]);
   }
   printf("}");
   printf("\n");
   }
  return 0;
}
```

OUTPUT:



RESULT: HENCE FOLLOW IMPLEMENTED.