

Program Code

```
#include<stdio.h>
#include<string.h>

char production[20][20];
int count;
char string[20];
int ptr;

int E();
int E_();
int T();
int T_();
int F();

void main()
{
    ptr=0;
    count=6;
    strcpy(production[0], "E->E+T|T");
    strcpy(production[1], "T->T*F|F");
    strcpy(production[2], "F->(E) |id");

    for(int i=0; i<3; i++)
    {
        char c=production[i][0];

        if(c==production[i][3])
        {
            printf("\n%c->", c);
            int p=-1;
            for(int j=4; j<strlen(production[i]); j++)
            {
                if(production[i][j]=='|')
                {
                    p=j;
                    break;
                }
            }
            if(p!=-1)
            {
                for(int k=p+1; k<strlen(production[i]); k++)
                {
                    printf("%c", production[i][k]);
                }
                printf("%c'", c);
                printf("\n%c'->", c);
                for(int j=4; production[i][j]!='|'; j++)
                {
                    printf("%c", production[i][j]);
                }
                printf("%c'|#", c);
            }
            else
            {
                printf("\n%s", production[i]);
            }
        }
    }
}
```

```

printf("\n");

printf("\nEnter the String: ");
scanf("%s",string);

if(E() && ptr==strlen(string))
{
    printf("\nString accepted\n");
}
else
{
    printf("\nString not accepted\n");
}
}

int F()
{
    if(string[ptr]=='(')
    {
        ptr++;
        if(E())
        {
            if(string[ptr]==')')
            {
                ptr++;
                return 1;
            }
            return 0;
        }
        return 0;
    }
    else if(string[ptr]=='i')
    {
        ptr++;
        if(string[ptr]=='d')
        {
            ptr++;
            return 1;
        }
        return 0;
    }
    return 0;
}

int T_()
{
    if(string[ptr]=='*')
    {
        ptr++;
        if(F())
        {
            if(T_())
            {
                return 1;
            }
            return 0;
        }
        return 0;
    }
}

```

```

        return 1;
    }

int T()
{
    if(F())
    {
        if(T_())
        {
            return 1;
        }
        return 0;
    }
    return 0;
}

int E_()
{
    if(string[ptr]=='+')
    {
        ptr++;
        if(T())
        {
            if(E_())
            {
                return 1;
            }
            return 0;
        }
        return 0;
    }
    return 1;
}

int E()
{
    if(T())
    {
        if(E_())
        {
            return 1;
        }
        return 0;
    }
    return 0;
}

```

Output

```
students@pgcse-HP-280-G1-MT:~/Desktop/R7_66/R7_66/3/7$ ./rd
E->TE'
E' ->+TE'|#
T->FT'
T' ->*FT'|#
F->(E)|id

Enter the String: id+(id*id+id)

String accepted
```