

RECURSIVE DESCENT PARSING

PROGRAM

```
#include <stdio.h>
char input[50];
int i,l;
int main()
{
    printf("\nRecursive descent parsing for the following grammar\n:");
    printf("\nE->TE\nE'->+TE'/@\nT->FT\nT'->*FT/@\nF->(E)/1D\n");
    printf("\nEnter the string to be checked:");
    gets(input);
    if(E())
    {
        if(input[i++]=='\0')
        {
            printf("\nString is accepted");
        }
        else
        {
            printf("\nString is not accepted");
        }
    }
    else
        printf("\nString is not accepted");
    return 0;
}

E()
{
    if(T())
    {
        if(EP())
            return(1);
        else
            return(0);
    }
    else
        return(0);
}

EP()
{
    if(input[i]=='+')
    {
        i++;
        if(T())
            return(1);
        else
            return(0);
    }
    else
        return(0);
}
```

```

    {
        if(EP())
            return(1);
        else
            return(0);
    }
    else
        return(0);
}
else
    return(1);
}
T()
{
    if(F())
    {
        if(TP())
            return(1);
        else
            return(0);
    }
}
TP()
{
    if(input[i]=='*')
    {
        i++;
        if(F())
        {
            if(TP())
                return(1);
            else
                return(0);
        }
        else
            return(0);
    }
    else
        return(1);
}
F()
{
    if(input[i]=='(')
    {
        i++;
        if(E())
        {
            if(input[i]==')')
            {
                i++;

```

```

        return(1);
    }
    else
        return(0);
}
else
    return(0);
}
else if(input[i]>='a'&&input[i]<='z' || input[i]>='A'&&input[i]<='z')
{
    i++;
    return(1);
}
else
    return(0);
}

```

OUTPUT

```

Recursive descent parsing for the following grammar
:
E->TE'
E' ->+TE' / @
T->FT'
T' ->*FT / @
F->(E) / 1D

```

Enter the string to be checked:a+a

String is accepted