

Ex No: 12

Date: 13-05-2021

## Simple Code Generation

### AIM:

To perform Simple code generation using Quadruples

### CODE:

```
#include<stdio.h>

#include<conio.h>

#include<string.h>

>

char op[2],arg1[5],arg2[5],result[5];

int main()

{

    FILE *fp1,*fp2;

    fp1=fopen("input.txt","r");

    fp2=fopen("output.txt","w");

    while(!feof(fp1))

    {

        fscanf(fp1,"%s%s%s%s",op,arg1,arg2,result);

        if(strcmp(op,"+")==0)

        {

            fprintf(fp2,"nMOV R0,%s",arg1);
```

```

    fprintf(fp2, "\nADD R0,%s",arg2);
    fprintf(fp2, "\nMOV %s,R0",result);
}

if(strcmp(op,"*")==0)
{
    fprintf(fp2, "\nMOV  R0,%s",arg1);
    fprintf(fp2, "\nMUL  R0,%s",arg2);
    fprintf(fp2, "\nMOV %s,R0",result);
}

if(strcmp(op,"-")==0)
{
    fprintf(fp2, "\nMOV R0,%s",arg1);
    fprintf(fp2, "\nSUB R0,%s",arg2);
    fprintf(fp2, "\nMOV %s,R0",result);
}

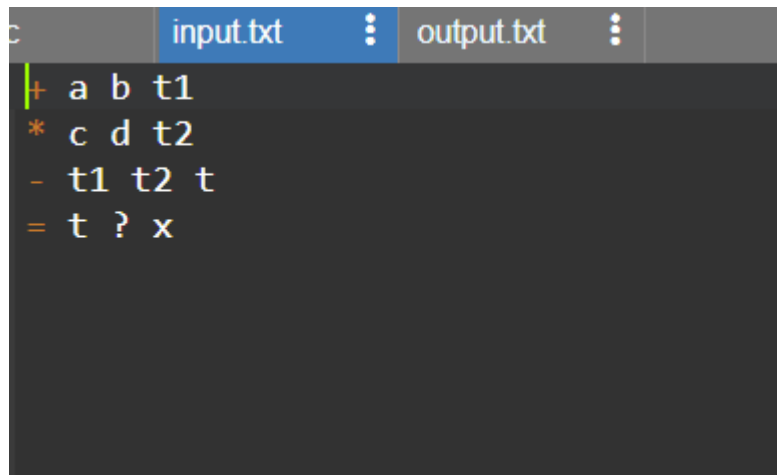
if(strcmp(op,"/")==0)
{
    fprintf(fp2, "\nMOV R0,%s",arg1);
    fprintf(fp2, "\nDIV R0,%s",arg2);
    fprintf(fp2, "\nMOV %s,R0",result);
}

if(strcmp(op,"")==0)
{

```

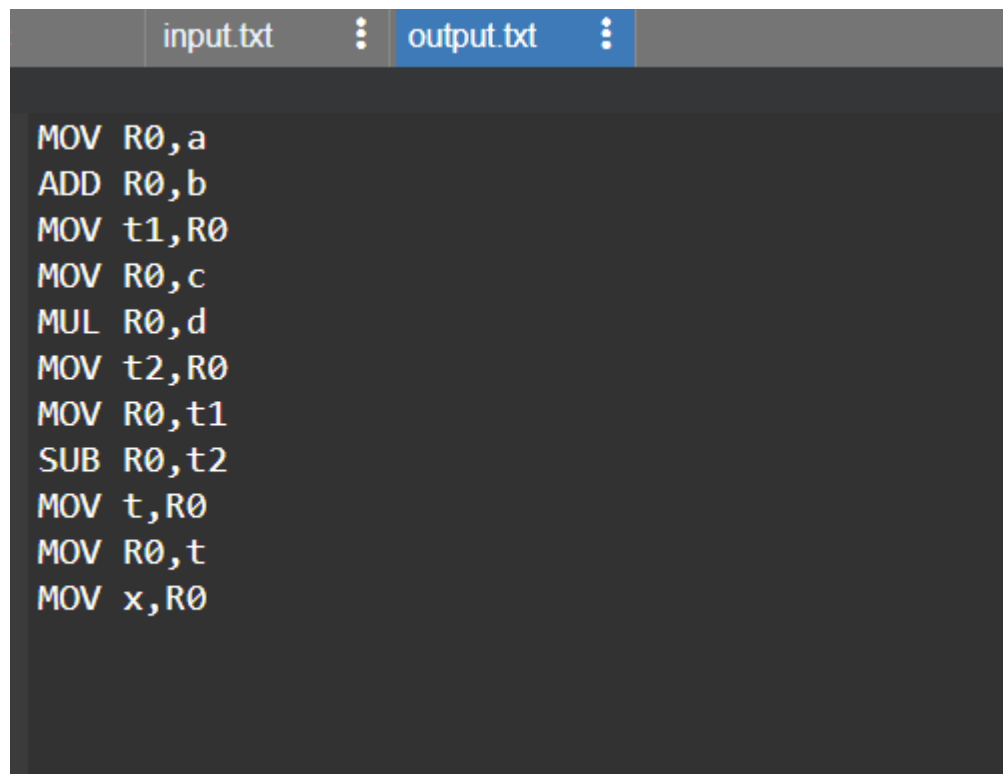
```
fprintf(fp2, "\nMOV R0,%s", arg1);  
fprintf(fp2, "\nMOV %s,R0", result);  
  
}  
  
}  
  
fclose(fp1)  
;  
  
fclose(fp2)  
; return 0;  
}
```

INPUT:



```
c input.txt output.txt  
+ a b t1  
* c d t2  
- t1 t2 t  
= t ? x
```

OUTPUT:

A screenshot of a code editor window. The top bar shows two tabs: 'input.txt' and 'output.txt', with 'output.txt' being the active tab. The editor area has a dark background and displays the following assembly code in a light-colored font:

```
MOV R0,a
ADD R0,b
MOV t1,R0
MOV R0,c
MUL R0,d
MOV t2,R0
MOV R0,t1
SUB R0,t2
MOV t,R0
MOV R0,t
MOV x,R0
```

**RESULT:**

Simple code generator was executed and verified successfully.