Ex No: 12

Date: 13-05-2021

Simple Code Generation

AIM:

To perform Simple code generation using Quadruples

CODE:

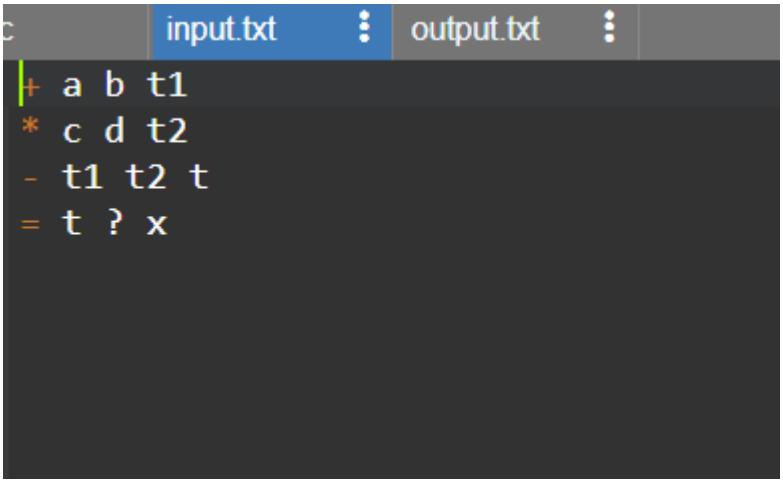
```
#include<stdio.h>
#include<conio.h>
#include<string.h
>
char op[2],arg1[5],arg2[5],result[5];
int main()
{
  FILE *fp1,*fp2;
  fp1=fopen("input.txt","r");
  fp2=fopen("output.txt","w");
  while(!feof(fp1))
  {

    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:



OUTPUT:

input.txt output.txt

```
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.