Program Code

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

struct TAC
{
     char LHS;
     char op;
     char x;
     char y;
};

struct TAC tac[50];
char expr[50],ex[50];
int inc=1;

int k=0;

int priority(char x)
{
    if(x == '+' || x == '-')
        return 1*inc;
    if(x == '*' || x == '/')
        return 2*inc;
    return 0;
}


void convert()
{
  while(strlen(ex)>1)
  {
  int max=-1;
       for(int i=0;ex[i]!='\0';i++)
    {
        if(ex[i]=='(') inc++;
        else if(ex[i]==')') inc--;
        if(max!=-1 && priority(ex[max])<priority(ex[i]))
          max=i;
        else if(max==-1)
          max=i;

    }
          if(max!=-1)
          {
               tac[k].LHS='0'+k;
               tac[k].op=ex[max];
               tac[k].x=ex[max-1];
               tac[k].y=ex[max+1];

               ex[max-1]=tac[k].LHS;
               k++;
               for(int i=max;ex[i+2]!='\0';i++)
               {
                    ex[i]=ex[i+2];
               }
               ex[strlen(ex)-2]='\0';
```

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        if(ex[max-2]=='(' && ex[max]==')')
        {
          ex[max-2]=ex[max-1];
          for(int i=max-1;i<strlen(ex)-2;i++)
            {
              ex[i]=ex[i+2];
            }
          ex[strlen(ex)-2]='\0';

        }
        }

    }
}

void main()
{
     printf("\nEnter the expression :\n");
     scanf(" %s",expr);
     int r = strlen(expr);

     strncat(ex,&expr[2],strlen(expr)-2);
     convert();

     for(int i=0;i<k;i++)
     {
          printf("\n");
          if(tac[i].LHS >='0' && tac[i].LHS <='9')
          {
               printf("t%c = ",tac[i].LHS);
          }
          else
          {
               printf("%c = ",tac[i].LHS);
          }
          if(tac[i].x >='0' && tac[i].x <='9')
          {
               printf("t%c ",tac[i].x);
          }
          else
          {
               printf("%c ",tac[i].x);
          }

          printf("%c ",tac[i].op);

          if(tac[i].y >='0' && tac[i].y <='9')
          {
               printf("t%c ",tac[i].y);
          }
          else
          {
               printf("%c ",tac[i].y);
          }
     }

     printf("\n%c = t%c\n",expr[0],tac[k-1].LHS);

}
```

Output

```
students@pgcse-HP-280-G1-MT:~/Desktop/R7_66/R7_66/3/10$ ./TAC_v2

Enter the expression :
a=b+c-(d*e)

t0 = d * e
t1 = b + c
t2 = t1 - t0
a = t2
```