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**Compiler Design**

**Lab – 11**

**Three Address code generation**

**Code :**

#include<stdio.h>

#include<ctype.h>

#include<stdlib.h>

#include<string.h>

void small();

void dove(int i);

int p[5]={0,1,2,3,4},c=1,i,k,l,m,pi;

char sw[5]={'=','-','+','/','\*'},j[20],a[5],b[5],ch[2];

void main()

{

printf("Enter the expression:");

scanf("%s",j);

printf("\tThe Intermediate code is:\n");

small();

}

void dove(int i)

{

a[0]=b[0]='\0';

if(!isdigit(j[i+2])&&!isdigit(j[i-2]))

{

a[0]=j[i-1];

b[0]=j[i+1];

}

if(isdigit(j[i+2])){

a[0]=j[i-1];

b[0]='t';

b[1]=j[i+2];

}

if(isdigit(j[i-2]))

{

b[0]=j[i+1];

a[0]='t';

a[1]=j[i-2];

b[1]='\0';

}

if(isdigit(j[i+2]) &&isdigit(j[i-2]))

{

a[0]='t';

b[0]='t';

a[1]=j[i-2];

b[1]=j[i+2];

sprintf(ch,"%d",c);

j[i+2]=j[i-2]=ch[0];

}

if(j[i]=='\*')

printf("\tt%d=%s\*%s\n",c,a,b);

if(j[i]=='/')

printf("\tt%d=%s/%s\n",c,a,b);

if(j[i]=='+')

printf("\tt%d=%s+%s\n",c,a,b);if(j[i]=='-')

printf("\tt%d=%s-%s\n",c,a,b);

if(j[i]=='=')

printf("\t%c=t%d",j[i-1],--c);

sprintf(ch,"%d",c);

j[i]=ch[0];

c++;

small();

}

void small()

{

pi=0;l=0;

for(i=0;i<strlen(j);i++)

{

for(m=0;m<5;m++)

if(j[i]==sw[m])

if(pi<=p[m])

{

pi=p[m];

l=1;

k=i;

}

}

if(l==1)

dove(k);

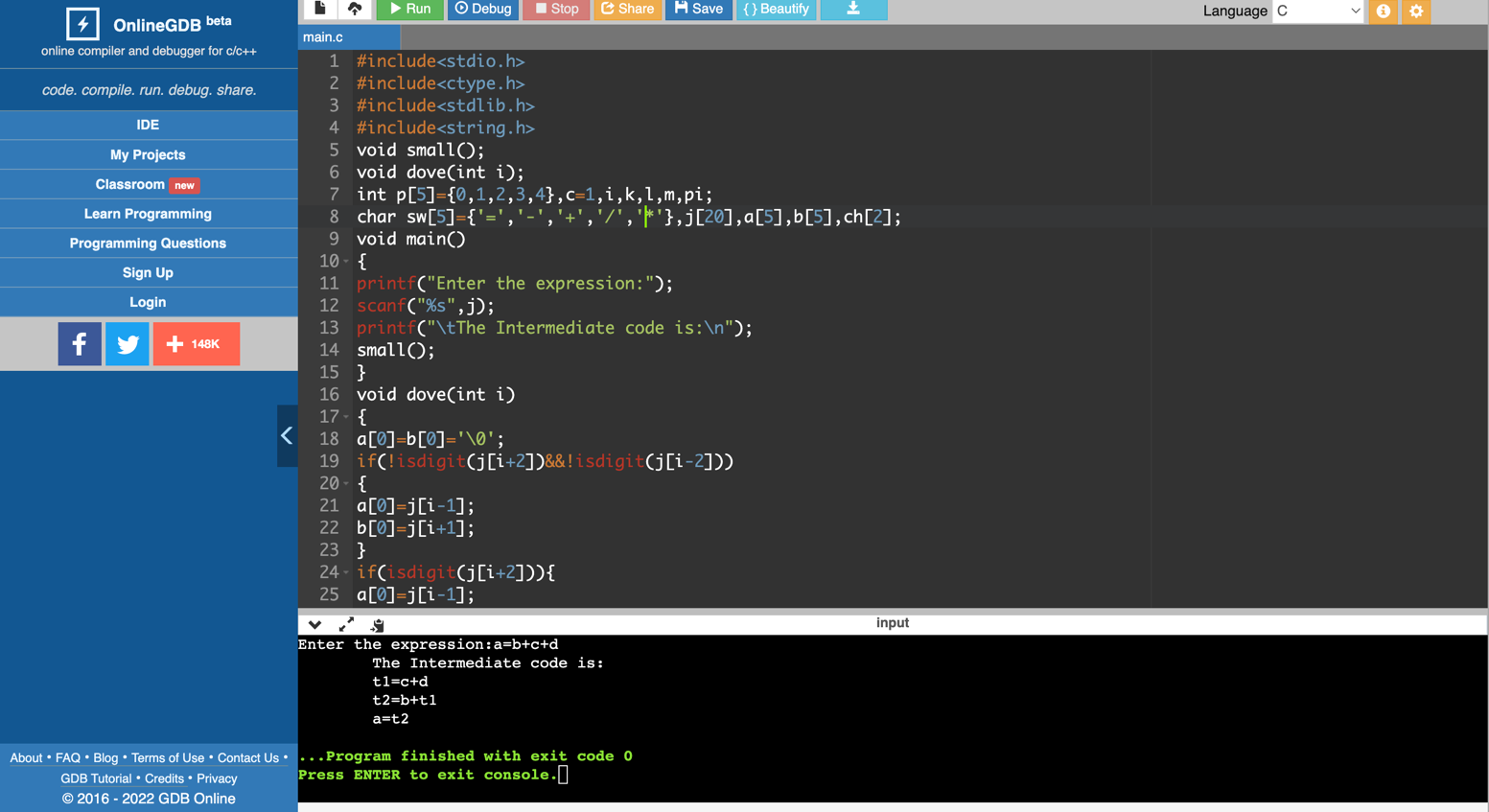
else

exit(0);

}

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**OUTPUT :**

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