

3rd year cse lab programs

As per the anna university regulations - 2004, cs 1356 compilers lab and cs 1355 graphics and multimedia lab programs will be available here... u can also request for prog to this mail id cse.achievers@gmail.com...will be published soon...

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SATURDAY, JANUARY 16, 2010

intermediate code generation

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program:

```
#include"stdio.h"
#include"conio.h"
#include"string.h"
int i=1,j=0,no=0,tmpch=90;
char str[100],left[15],right[15];
void findopr();
void explore();
void fleft(int);
void fright(int);
struct exp
{
    int pos;
    char op;
}k[15];
void main()
{
    clrscr();
    printf("\t\tINTERMEDIATE CODE GENERATION\n\n");
    printf("Enter the Expression :");
    scanf("%s",str);
    printf("The intermediate code:\t\tExpression\n");
    findopr();
    explore();
    getch();
}
void findopr()
{
    for(i=0;str[i]!='\0';i++)
    if(str[i]==':')
    {
        k[j].pos=i;
        k[j++].op=':';
    }
    for(i=0;str[i]!='\0';i++)
    if(str[i]=='/')
    {
        k[j].pos=i;
        k[j++].op='/';
    }
    for(i=0;str[i]!='\0';i++)
    if(str[i]=='*')
    {
        k[j].pos=i;
        k[j++].op='*';
    }
    for(i=0;str[i]!='\0';i++)
    if(str[i]=='+' )
```

```

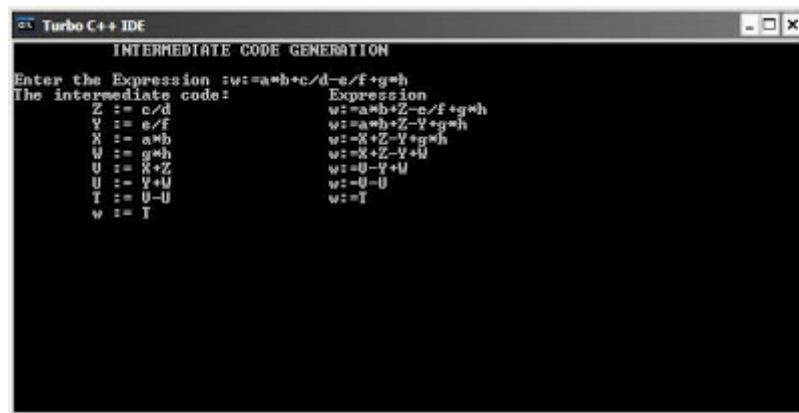
{
    k[j].pos=i;
    k[j++].op='+';
}
for(i=0;str[i]!='\0';i++)
if(str[i]=='-')
{
    k[j].pos=i;
    k[j++].op='-';
}
}
void explore()
{
    i=1;
    while(k[i].op!='\0')
    {
        fleft(k[i].pos);
        fright(k[i].pos);
        str[k[i].pos]=tmpch--;
        printf("\t%c := %s%c%s\t\t",str[k[i].pos],left,k[i].op,right);
        for(j=0;j < strlen(str);j++)
            if(str[j]!='$')
                printf("%c",str[j]);
        printf("\n");
        i++;
    }
    fright(-1);
    if(no==0)
    {
        fleft(strlen(str));
        printf("\t%s := %s",right,left);
        getch();
        exit(0);
    }
    printf("\t%s := %c",right,str[k[--i].pos]);
    getch();
}
void fleft(int x)
{
    int w=0,flag=0;
    x--;
    while(x!= -1 &&str[x]!='+'
    &&str[x]!='*'&&str[x]!='='&&str[x]!='\0'&&str[x]!='-'
    &&str[x]!='/'&&str[x]!=':')
    {
        if(str[x]!='$'&& flag==0)
        {
            left[w++]=str[x];
            left[w]='\0';
            str[x]='$';
            flag=1;
        }
        x--;
    }
}
void fright(int x)
{
    int w=0,flag=0;
    x++;
    while(x!= -1 && str[x]!='+'
    &&str[x]!='*'&&str[x]!='\0'&&str[x]!='='&&str[x]!='-'&&str[x]!='/'
    &&str[x]!=':')
    {
        if(str[x]!='$'&& flag==0)
        {
            right[w++]=str[x];
            right[w]='\0';
            str[x]='$';
            flag=1;
        }
        x++;
    }
}

```

```
}  
x++;  
}  
}
```

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Output:



```
Turbo C++ IDE  
INTERMEDIATE CODE GENERATION  
Enter the Expression :w:=a*b*c/d-e/f+g*h  
The intermediate code:      Expression  
Z := c/d                   w:=a*b+Z-e/f+g*h  
V := e/f                   w:=a*b+Z-e/f+g*h  
X := a*b                   w:=-X+Z-Y+g*h  
W := g*h                   w:=-X+Z-Y+g*h  
U := X*Z                   w:=U-Y+U  
U := U-V                   w:=U-Y+U  
T := U-U                   w:=T  
W := T
```

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Posted by cselab at 11:53 PM

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