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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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cselab

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recursive descent parser in c

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program:

```
#include"stdio.h"
#include"conio.h"
#include"string.h"
#include"stdlib.h"
#include"ctype.h"

char ip_sym[15],ip_ptr=0,op[50],tmp[50];
void e_prime();
void e();
void t_prime();
void t();
void f();
void advance();
int n=0;
void e()
{
 strcpy(op,"TE'");
 printf("E=%-25s",op);
 printf("E->TE'\n");
 t();
 e_prime();
}

void e_prime()
{
int i,n=0,l;
for(i=0;i<=strlen(op);i++)
   if(op[i]!='e')
 tmp[n++]=op[i];
strcpy(op,tmp);
l=strlen(op);
for(n=0;n < l && op[n]!='E';n++);
if(ip_sym[ip_ptr]=='+')
 {
    i=n+2;
 do
 {
 op[i+2]=op[i];
 i++;
 }while(i<=l);
  op[n++]='+';
  op[n++]='T';
  op[n++]='E';
  op[n++]=39;
  printf("E=%-25s",op);
```

```
 printf("E'->+TE'\n");
 advance();
 t();
 e_prime();
}
else
{
   op[n]='e';
 for(i=n+1;i<=strlen(op);i++)
op[i]=op[i+1];
printf("E=%-25s",op);
printf("E'->e");
}
}
void t()
{
 int i,n=0,l;
 for(i=0;i<=strlen(op);i++)
  if(op[i]!='e')
   tmp[n++]=op[i];
 strcpy(op,tmp);
 l=strlen(op);
for(n=0;n < l && op[n]!='T';n++);

 i=n+1;
 do
 {
  op[i+2]=op[i];
  i++;
 }while(i < l);
 op[n++]='F';
 op[n++]='T';
 op[n++]=39;
 printf("E=%-25s",op);
 printf("T->FT'\n");
 f();
 t_prime();
}

void t_prime()
{
int i,n=0,l;
for(i=0;i<=strlen(op);i++)
   if(op[i]!='e')
 tmp[n++]=op[i];
strcpy(op,tmp);
l=strlen(op);
for(n=0;n < l && op[n]!='T';n++);
if(ip_sym[ip_ptr]=='*')
{
   i=n+2;
 do
 {
 op[i+2]=op[i];
 i++;
 }while(i < l);
  op[n++]='*';
  op[n++]='F';
  op[n++]='T';
  op[n++]=39;
  printf("E=%-25s",op);
  printf("T'->*FT'\n");
  advance();
  f();
  t_prime();
 }
 else
 {
   op[n]='e';
```

```
 for(i=n+1;i<=strlen(op);i++)
op[i]=op[i+1];
printf("E=%-25s",op);
printf("T'->e\n");
}
}

void f()
{
int i,n=0,l;
for(i=0;i<=strlen(op);i++)
   if(op[i]!='e')
tmp[n++]=op[i];
strcpy(op,tmp);
l=strlen(op);
for(n=0;n < l && op[n]!='F';n++);
if((ip_sym[ip_ptr]=='i')||(ip_sym[ip_ptr]=='I'))
{
op[n]='i';
printf("E=%-25s",op);
printf("F->i\n");
advance();
}
else
{
 if(ip_sym[ip_ptr]=='(')
 {
  advance();
  e();
  if(ip_sym[ip_ptr]==')')
  {
   advance();
    i=n+2;
do
{
op[i+2]=op[i];
i++;
}while(i<=l);
 op[n++]='(';
 op[n++]='E';
 op[n++]=')';
 printf("E=%-25s",op);
 printf("F->(E)\n");
  }
 }
 else
 {
  printf("\n\t syntax error");
  getch();
  exit(1);
 }
}
}

void advance()
{
ip_ptr++;
}

void main()
{
 int i;
 clrscr();
 printf("\nGrammar without left recursion");
 printf("\n\t\t E->TE' \n\t\t E'->+TE'|e \n\t\t T->FT' ");
 printf("\n\t\t T'->*FT'|e \n\t\t F->(E)|i");
 printf("\n Enter the input expression:");
 gets(ip_sym);
 printf("Expressions");
```

```
 printf("\t Sequence of production rules\n");
  e();
  for(i=0;i < strlen(ip_sym);i++)
 {
  if(ip_sym[i]!='+'&&ip_sym[i]!='*'&&ip_sym[i]!='('&&
     ip_sym[i]!=')'&&ip_sym[i]!='i'&&ip_sym[i]!='I')
  {
   printf("\nSyntax error");
   break;
  }
  for(i=0;i<=strlen(op);i++)
    if(op[i]!='e')
 tmp[n++]=op[i];
    strcpy(op,tmp);
    printf("\nE=%-25s",op);
 }
 getch();
}
```

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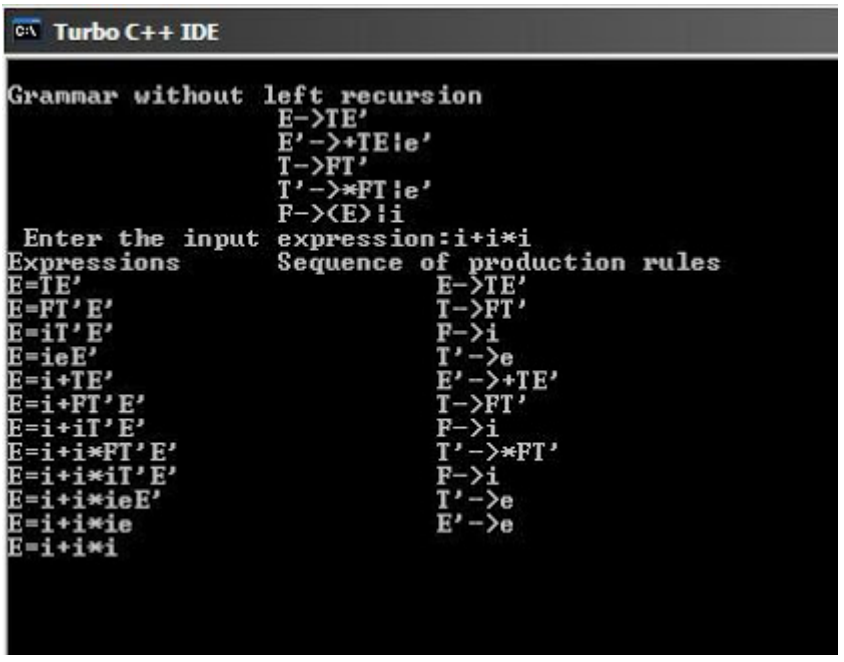
Output:



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Posted by cselab at 5:29 PM
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