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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shift reduce parser

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program:

```
#include"stdio.h"
#include"stdlib.h"
#include"conio.h"
#include"string.h"
char ip_sym[15],stack[15];
int ip_ptr=0,st_ptr=0,len,i;
char temp[2],temp2[2];
char act[15];
void check();
void main()
{
clrscr();
printf("\n\t\t SHIFT REDUCE PARSER\n");
printf("\n GRAMMER\n");
printf("\n E->E+E\n E->E/E");
printf("\n E->E*E\n E->a/b");
printf("\n enter the input symbol:\t");
gets(ip_sym);
printf("\n\t stack implementation table");
printf("\n stack\t\t input symbol\t\t action");
printf("\n_______\t\t _______________\t\t _______\n");
printf("\n $\t\t%s$\t\t\t--",ip_sym);
strcpy(act,"shift ");
temp[0]=ip_sym[ip_ptr];
temp[1]='\0';
strcat(act,temp);
len=strlen(ip_sym);
for(i=0;i<=len-1;i++)


{
stack[st_ptr]=ip_sym[ip_ptr];
stack[st_ptr+1]='\0';
ip_sym[ip_ptr]=' ';
ip_ptr++;
printf("\n $%s\t\t%s$\t\t\t%s",stack,ip_sym,act);
strcpy(act,"shift ");
temp[0]=ip_sym[ip_ptr];
temp[1]='\0';
strcat(act,temp);
check();
st_ptr++;
}
st_ptr++;
check();
```

```
}
void check()
{
int flag=0;
temp2[0]=stack[st_ptr];
temp2[1]='\0';
if((!strcmpi(temp2,"a"))||(!strcmpi(temp2,"b")))
{
 stack[st_ptr]='E';
 if(!strcmpi(temp2,"a"))
  printf("\n $%s\t\t%s$\t\t\tE->a",stack, ip_sym);
 else
  printf("\n $%s\t\t%s$\t\t\tE->b",stack,ip_sym);
 flag=1;
}
if((!strcmpi(temp2,"+"))||(strcmpi(temp2,"*"))||(!strcmpi(temp2,"/")))
{
 flag=1;
}
if((!strcmpi(stack,"E+E"))||(!strcmpi(stack,"E\E"))||
(!strcmpi(stack,"E*E")))
{
strcpy(stack,"E");
st_ptr=0;
if(!strcmpi(stack,"E+E"))
printf("\n $%s\t\t%s$\t\t\tE->E+E",stack,ip_sym);
else
if(!strcmpi(stack,"E\E"))
printf("\n $%s\t\t %s$\t\t\tE->E\E",stack,ip_sym);
else
printf("\n $%s\t\t%s$\t\t\tE->E*E",stack,ip_sym);
flag=1;
}

if(!strcmpi(stack,"E")&&ip_ptr==len)
{
printf("\n $%s\t\t%s$\t\t\tACCEPT",stack,ip_sym);
getch();
exit(0);
}
if(flag==0)
{
printf("\n%s\t\t\t%s\t\t reject",stack,ip_sym);
exit(0);
}
return;
}
```

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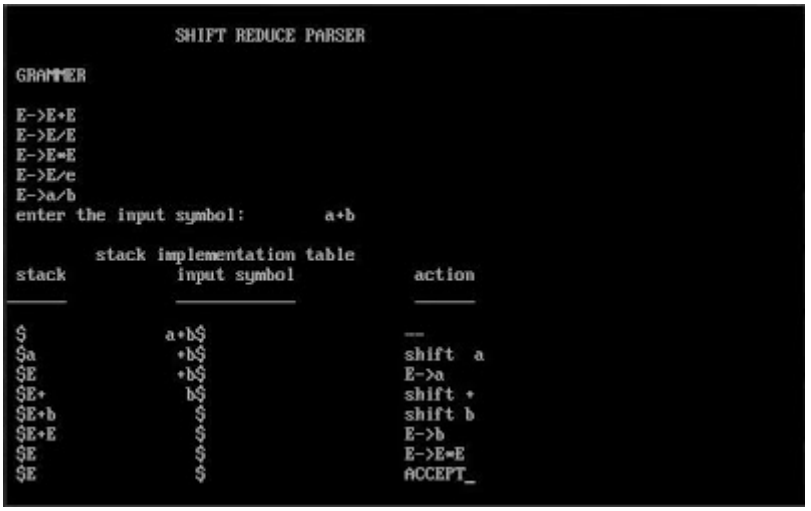
output:



```
                SHIFT REDUCE PARSER

GRAMMER

E->E+E
E->E/E
E->E*E
E->E/e
E->a/b
enter the input symbol:        a+b

        stack implementation table
stack           input symbol            action
_____           _____________           ______

$               a+b$                    __
$a               +b$                    shift  a
$E               +b$                    E->a
$E+               b$                    shift +
$E+b              $                     shift b
$E+E              $                     E->b
$E                $                     E->E+E
$E                $                     ACCEPT_
```

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Posted by cselab at 2:27 PM
Labels: compiler lab , cs1356 , mplemention of parse tree using stack , parse implemention , parse tree , parse tree in c

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