***// POSTFIX EVALUATION***

#include<stdio.h>

#include<conio.h>

#define MAX 20

typedef struct stack

{

int data[MAX];

int top;

}stack;

void init(stack \*);

int empty(stack \*);

int full(stack \*);

int pop(stack \*);

void push(stack \*,int);

int evaluate(char x,int op1,int op2);

void main()

{

stack s;

char x;

int op1,op2,val;

init(&s);

printf("Enter the expression (each operand is sigle digit): ");

while((x=getchar())!='\n')

{

if(isdigit(x))

push(&s,x-48); *//x-48 for removing the effect of ASCII*

else

{

op2=pop(&s);

op1=pop(&s);

val=evaluate(x,op1,op2);

push(&s,val);

}

}

val=pop(&s);

printf("\nValue of expression=%d",val);

}

int evaluate(char x,int op1,int op2)

{

if(x=='+')

return(op1+op2);

if(x=='-')

return(op1-op2);

if(x=='\*')

return(op1\*op2);

if(x=='/')

return(op1/op2);

if(x=='%')

return(op1%op2);

}

void init(stack \*s)

{

s->top=-1;

}

int empty(stack \*s)

{

if(s->top==-1)

return(1);

return(0);

}

int full(stack \*s)

{

if(s->top==MAX-1)

return(1);

return(0);

}

void push(stack \*s,int x)

{

s->top=s->top+1;

s->data[s->top]=x;

}

int pop(stack \*s)

{

int x;

x=s->data[s->top];

s->top=s->top-1;

return(x);

}