```
// Athul Sabu
// 20
// 2025-07-23
/*****************************************
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ROLL NO 20
14-07-2025
*****************************************/
#include<stdio.h>
#include<ctype.h>
#define SIZE 100
char stack[SIZE];
int TOP = -1;
void push(char c){
if (TOP ==SIZE-1)
return;
else {
TOP++;
stack[TOP] = c;
}
}
char pop(){
if (TOP ==-1)
return '\0';
else{
char c = stack[TOP];
TOP--;
return c;
}
}
int precedence(char c){
if (c=='^') return 3;
else if (c=='*' || c=='/') return 2;
else if (c=='+' || c=='-') return 1;
else return 0;
}
void infixToPostfix(char infix[], char postfix[]){
char ch ;
int i = 0, j=0;
for(i=0; infix[i] !='\0'; i++){
ch = infix[i];
if(isdigit(ch))
postfix[j++] = ch;
else if (ch=='('){
push(ch);
}
else if (ch ==')'){
char popedChar = pop();
while(popedChar !='('){
postfix[j++] =popedChar;
popedChar = pop();
}
}
else {
while( TOP!=-1  && precedence(stack[TOP]) ==preceden
ce(ch)){
postfix[j++] = pop();
}
push(ch);
}
}
while(TOP !=-1){
postfix[j++] =pop();
}
postfix[j] = '\0';
}
int evalPostfix(char postfix[]){
int S2[32];
int top =-1;
int i =0;
int a,b;
char ch;
while((ch=postfix[i++]) != '\0'){
if (isdigit(ch)){
S2[++top] = ch - '0';
}
else{
a = S2[top--];
b = S2[top--];
switch(ch){
 case '+': S2[++top] = b+a; break;
 case '-': S2[++top] = b-a; break;
 case '*': S2[++top] = b*a; break;
 case '/': S2[++top] = b/a; break;
}
}
}
int result = S2[top];
return result;
}
void main(){
char postfix[SIZE] ,infix[SIZE];
printf("Enter the infix value (don't enter white spa
ce) : ");
scanf("%s", infix);
infixToPostfix(infix, postfix);
printf("\nPostfix exp : %s\n", postfix);
int result = evalPostfix(postfix);
printf("result = %d\n", result);
}
/**********************OUTPUT**********************
Enter the infix value (don't enter white space) : (3
+2)*5
Postfix exp : 32+5*
result = 25
************************/
// OUTPUT
// Compiled successfully. Press ■ Run.
// Enter the infix value (don't enter white space) :
 (4*3)*3(4*3)*3
// (4*3)*3
//
// Postfix exp : 43*3*
// result = 36
```