**TITLE 38**

Write a C program to evaluate the given pre-fix expression to post-fix expression

**OBJECTIVE:**

By the end of this program we will be able convert a pre-fix expression to post-fix expression

**PROBLEM STATEMENT:**

In this program we convert the pre-fix to post-fix expressions. Input from user:

Enter the prefix expression

Once the input is collected and stored the output is printed.

**ALGORITHM:**

START

Define variables:

INPUT: Read from the keyboard

COMPUTATION: Computing the postfix expression for the prefix expression

DISPLAY: Displaying the converted postfix expression

STOP

**PROGRAM:**

#include<stdio.h>

#include<conio.h>

#include<string.h>

#include<stdlib.h>

# define MAX 20

char str[MAX],stack[MAX];

int top=-1;

void push(char c)

{

stack[++top]=c;

}

char pop()

{

return stack[top--];

}

void pre\_post()

{

int n,i,j=0; char c[20];

char a,b,op;

printf("Enter the prefix expression\n");

gets(str);

n=strlen(str);

for(i=0;i<MAX;i++)

stack[i]='\0';

printf("Postfix expression is:\t");

for(i=0;i<n;i++)

{

if(str[i]=='+'||str[i]=='-'||str[i]=='\*'||str[i]=='/')

{

push(str[i]);

}

else

{ c[j++]=str[i];

while((top!=-1)&&(stack[top]=='@'))

{

a=pop(); c[j++]=pop();

}

push('@');

}

}

c[j]='\0';

printf("%s",c);

}

main()

{

pre\_post();

}

**CONCLUSION:**

The simulation of the above C program helped me how we use STACK to convert prefic expression to postfix expression.

**OUTPUT:**

Enter the prefix expression

-\*+ABC

Postfix expression is: AB+C\*