

Ex 5: Infix to Postfix

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DATE:-19.3.24

PROGRAM:

```
#include<stdio.h>

#include<malloc.h>

int top=0,st[20];

char inf[40],post[40];

void postfix();

void push(int);

char pop();

void main()

{

printf("Enter the infix expression:");

scanf("%s",inf);

postfix();

}

void postfix()

{int i,j=0;

for(i=0;inf[i]!='0;i++)

{switch(inf[i])

{

case '+':while(st[top]>=1)

post[j++]=pop();

push(1);

break;
```

```
case '-':while(st[top]>=1)
post[j++]=pop();
push(2);
break;

case '*':while(st[top]>=3)
post[j++]=pop();
push(3);
break;

case '/':while(st[top]>=4)
post[j++]=pop();
push(4);
break;

case '^':
post[j++]=pop();
push(5);
break;

case '(':push(0);
break;

case ')':while(st[top]!=0)
post[j++]=pop();
top--;
break;

default:
post[j++]=inf[i];
}}

while(top>0)
post[j++]=pop();
```

```
printf("\nPostfix expression is =>\n\t\t%s",post);

}void push(int ele)

{

top++;

st[top]=ele;

}char pop()

{int el;

char e;

el=st[top];

top--;

switch(el)

{case 1:

e='+';

break;

case 2:

e='-';

break;

case 3:

e='*';

break;

case 4:

e='/';

break;

case 5:

e='^';

break;

}return(e);
```

}

OUTPUT:

```
aiml231501129@cselab:~$ gcc ex5.c
aiml231501129@cselab:~$ ./a.out
Enter the infix expression:1*2*3+4
```

```
Postfix expression is =>
```

```
12*3*4+aiml231501129@cselab:~$ █
```