

Infix to Postfix:-

Infix Expression : $A * (B * C + D * E) + F$

S.No	current token	operator stack	postfix string
1.	A	Infinity-	A
2.	*	*	A
3.	(	*(	A
4.	B	*(	AB
5.	*	*(*	AB
6.	(	*( *( *	ABC
7.	+	*(*(*+	ABC*
8.	D	*(*(*+	ABC*D
9.	*	*(*(*+*	ABC*D
10.	E	*(*(*+*	ABC*DE
11.	)	*	ABC*DE+
12.	+	+	ABC*DE*+*
13.	F	+	ABC*DE*+*F
14.	-	-	ABC*DE*+*F+

Postfix Expression is :- $ABC*DE*+*F+$



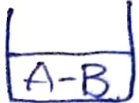
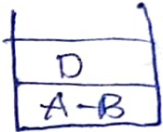
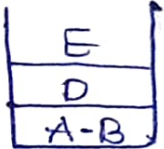
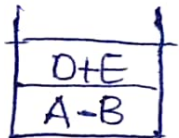

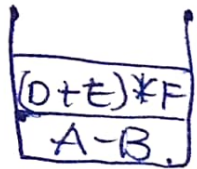
2) Infix Expression : $A * B^c + D$

S.No	current token	operator stack	postfix string
1	A		A
2	*	*	A
3	B	*	AB
4	A	*A	AB
5	C	*A	ABC
6	+	+	ABC^*
7	D	+	ABC^*D
8		+	ABC^*D+

Postfix Expression : ABC^*D+

3) postfix to infix :-

Postfix Expression : $AB - DE + F * /$

S.No	Reading of postfix	stack top	Expression
1.	A	A	
2.	B	B	
3.	-	A-B	
4.	D	D	
5.	E	E	
6.	+	D+E	
7.	F	F	
8.	*	$(D+E)*F$	
9.	/	$(A-B)/((D+E)*F)$	

Infix Expression: $(A-B)/((D+E)*F)$

4) Postfix conversion : $abc * de - / +$

S.No	symbol	stack
1.	a	a
2.	b	ab
3.	c	abc
4.	*	$a(b*c)$
5.	d	$a(b*c)d$
6.	e	$a(b*c)de$
7.	-	$a(b*c)(d-e)$
8.	/	$a((b*c)/(d-e))$
9.	+	$(a+((b*c)/(d-e)))$

Infix conversion : $(a+((b*c)/(d-e)))$

5) Balanced Symbol:-

$((a+b)*(c-d))$

S.No	symbol	stack	Action taken	Expression so far
1	(	(	push '('	(
2.	(	((	push '('	((
3.	a	((	Append 'a'	((a
4.	+	((	Append '+'	((a+
5.	b	((	Append 'b'	((a+b
6.	)	(	pop '('	((a+b
7.	*	(*	push '*'	((a+b)*
8.	(	(* (	push '('	((a+b)*(
9.	(	(* (	Append '('	((a+b)*(
10	-	(* (	Append '-'	((a+b)*(
11.	d	(* (	Append 'd'	((a+b)*(d
12.	)	(*	pop '('	((a+b)*(d)
13	)		pop '*'	((a+b)*(d))

It is valid for 'Balanced symbol.'

6) i) $[(a+b)*c-d]$

S.No	Symbol	stack	Action taken	Expression so far.
1.	(	[( ]	push '('	(
2.	a	[(]	Append 'a'	(a
3.	+	[(,+]	push '+'	(a+
4.	b	[(,+]	Append 'b'	(a+b
5.	)	[(,+]	pop '('	(a+b)
6.	*	[(,+*]	push '*'	(a+b)*
7.	c	[(,]*]	Append 'c'	(a+b)*c
8.	)	[( ]	pop 'c'	(a+b)*c
9.	-	[(,-]	push '-'	(a+b)*c-
10.	d	[(,-]	Append 'd'	(a+b)*c-d
11.	End	\emptyset	pop remain- ing operators	(a+b)*c-d

It is valid for "Balanced symbol"