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

S.No	current token	operator stack	postfix string
1	A		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
			ABC * DE * + * F +

2. Infix expression:

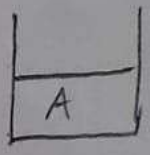
A * B ^ C + D

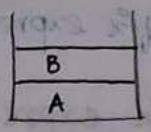
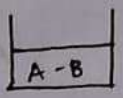
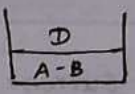
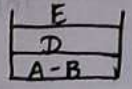
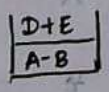
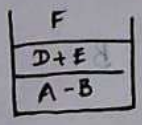
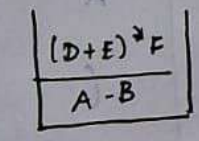
S.No	Current Token	Operator STACK	postfix string
1	A		A
2	*	*	A
3	B	*	AB
4	A	* A	AB
5	(	* (A	ABC
6	+	+	ABC ^ *
7	D	+	ABC ^ * D
8			ABC ^ * D +

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-/+

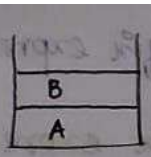
Sr.No	Symbol	Stack
1	a	a
2	b	ab

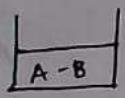
3	C	
4	*	
5	d	
6	e	
7	-	
8	/	
9	+	

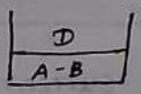
5. Balanced sy

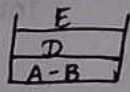
(

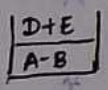
S.No	Sym
1	(
2	(
3	a
4	+
5	b
6	(
7	*

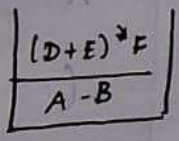












3	c	abc
4	*	a(b*c)
5	d	a(b*c)d
6	e	a(b*c)de
7	-	a(b*c)(d-e)
8	/	a((b*c)/(d-e))
9	+	(a+((b*c)/(d-e))

5. Balanced symbols

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

S.No	Symbol	Stack	Action Token	Expression so for
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	(	c*(	push '('	((a+b)^3 (
9	(	c*c	append 'c'	((a+b)^3 (c
10	-	(*(	append '-'	((a+b)^3 (c-
11	d	(*(	append 'd'	((a+b)^3 (c-d)
12	)	(*	pop '('	((a+b)^3 (c-d)
13	)		pop 'c'	((a+b)^3 (c-d))

It is valid for 'Balanced symbol'

7	c			
8	)			
9	-			
10	d			
11	End			

It is valid

6. Balancing symbol

$[\{(a+b)^3 c\} - d]$

S.No	symbol	stack	Action Taken	Expression so far
1.	(	[( ]	push '('	( )
		[( ]	Append 'a'	(a
2	a			
		[(, +]	push '+'	(a+
3	+			
		[(, +]	append 'b'	(a+b
4	b			
		[(, +]	pop '('	(a+b)
5	)			
		[(, + , *]	push '*'	(a+b)*
6	*			

7	c	[(,*]	Append 'c'	(a+b)* c
8	)	[c]	pop 'c'	(a+b)* c
9	-	[c,-]	pop '('	(a+b)* c -
10	d	[c,-]	Append 'd'	(a+b)* c-d
11	End	∅	pop remaining operator	(a+b)* c-d

It is valid for 'Balanced Symbol'