27/7/24

1) Infix to Postfix

S.No	Current Token	operator stack	Postfix string.
			A
1.	A		A
2.	*	*	A
3.	C	*C	AB
4.	B	*C	AB
5.	*	*C*	ABC
6.	C	*C*	ABC*
7.	+	*C+	ABC*D
8.	D	*C+	ABC*D
9.	*	*C+*	ABC+D
10.	E	*C+*	ABC*DE
11.	)	*	ABC+DE*+
12.	+	+	ABC*DE*+*
13.	F	+	ABC*DE*+*F
14.			ABC*DE*+*F+

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

2) Inf

3. Po

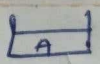
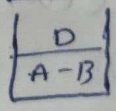
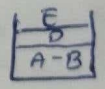
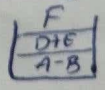
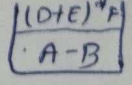
2) Infix Expression : A * B ^ C + D

S.NO	current Token	Operator Stack	Postfix string
1.	A		A
2.	*	*	A
3.	B	*	AB
4.	^	*^	AB
5.	C	*^	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 Symbols.

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

S.No	Symbol	Stack	Action Token	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.	c	(*(	Append 'c'	((a+b)*(c
10	-	(*(	Append '-'	((a+b)*((-
11.	d	(*(	Append 'd'	((a+b)*(c-d)
12.	)	(*	pop '('	((a+b)*(c-d)
13.	)		pop '('	((a+b)*(c-d))

It is valid for 'Balanced Symbol'.

6. Balancing symbol

[{(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 '('	(a+b)*c
9.	-	[(,-]	pop '-'	(a+b)*c-
10.	d	[(,-]	Append 'd'	(a+b)*c-d
11.	End	ϕ	pop remaining operators	(a+b)*c-d

It is valid for "Balanced Symbol"