Os. Translate the following infix expression into its equivalent postsix expression.

$$(A + B)/D \wedge ((E-F)+G)$$

$$Solution; \Rightarrow (A+B)/D \wedge ((E-F)+G)$$

$$= AB+/D \wedge ((E-F)+G)$$

$$= AB+/$$

Solution: 
$$\Rightarrow A * (B+D)/E - F + (G+H/K)$$

$$= A + BD + /E - F + (G+H/K)$$

$$= A + BD + /E - F + G+K/+$$

$$= A + BD + /E - F + G+K/+$$

$$= ABD + + /E - F + G+K/+$$

$$= ABD + + E/ - FG+K/+ +$$

15 to 1

7: 5

$$A + (B*C - (D/E^F)*6)*H$$

$$Solution:> A + (B*C - (D/E^F)*6)*H$$

$$= A + (B*C - (D/E^F)*6)*H$$

$$= A + (B*C - DEF^F)**6)*H$$

$$= A + (BC* - DEF^F)**6*H$$

$$= A + (BC* - DEF^F)**16*H$$

$$= A + (BC* - DEF^F)*16*H$$

$$= A$$

(22)

(a) / (c) /

Iranslate the following infin expression into its equivalent prefix expression.

MINOR OF THE

Q Consider the expression

5 x (6+2) - (12/4)

Convert the above light expression to postfix expression using stack.

me I year Andrew Patrick " Top total

Col	utions
S 01	U 1101 12

29040302>		0
Symbol Scanned	Stack	Postin Expression
5		5
5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	*	51 day : " 1'
(	A, (	5/11/21/21
4 11 67 13/11	¥,(···	1.5,6
+	4, (,+	75,6 1 nlm 1
11 1 2 · mill.	*,1(,+	5,6,2
)	+	5,6,2,+
and the first of the same	- 1. or 1.	5,6,2,4,4
and the second of the second		5,6,2,+,4
	-,(	5,6,2,+,4,12
	-,(,/	5,6,2,+,4,12
4	-,(,/	5,6,2,+, 4, 12,4
, t	- ·	5,6,2,4,4,12,4,1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.1	5,6,2,+,4,12,4,1,-
the state of the s		

оз Postfix Епросовол 15 5,6,2,+, и, 12,4,1,-

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Q,	Convert	A+ (B+C-(D/	E-F) +G) +H into postfix
	form she	owing stack sta	tus after every step in
1.	-tabular	Josm. Stack	Postfix Expression
12_	Symbol	SMCI	A
	A .	+	A
	1	+,(	A , , , , , , , , , , , , , , , , , , ,
i.	B	+,(	A.B
	*	+, (,+	A,B
		200	A,B,C
	С	+,(,*	A,B,C,+
		+,(,-	1
	·( )	+,(,-,(	ABC,+
	D	+,(,-,(	A,B,C,+,D
		+,(,-,(,/	A.B.C. +, D
	, E	+,(,-,(,/	BB,C,x,D,E
	_	+,(,-,(,-	DB,C,4,D,€,/
	٤	+, (,-, (,-,-,-,	A,B,C, x,D,E,/,F
	)	+, (,-! !! !! !! !! !! !!	A,B,C,*,D,E,/,F,-
	*	+,(,-,*	A,B,C, , , D, E, /, F, -
	G	1 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A,B,C, * ,D,E,/,F,-,G
	)	+	AB,C, +, D,E, 1, F, -, G, +, -
	*	+,×	A,B, C, x, D, E, 1, F, -, G, x, -
	H	+, *	A,B,C,+D,E,/,F,-G,+,-H A,B,C,+D,E,/,F,-G,+,-,1+,-+
10	Portline	Empression is AR	CADE/F-GA-H++

Consider the following infine expression:

((A+B)+D) ^(E-F)

Find its equivalent partine expression using. Itack.

C 112 30	in the fact of		1 5 6
Symbol	Stack	Enpression	V
	( = = = = = = )	, "	1
. (	((	7.1-	
A	10	A	
+	((+	A 1/- 1/1	· ·
B	(,(,+	A.B	
	1000	A, B, +	
, ,	(,** 15,15,1,1)	A,B,+	)
~	1 1 1 1 1 1 1 1 1 1	A,B,+, D	
) )	(,4	85	100
)	Empty . 1.2.4	A, B, +, D, +	
^	Λ	A, B, +, D, H	
(	^,(	A,B,+,D,+	
E ,	A, C	A,B,+,D, N,E	
- 1	N, (,-1, 1, 1, 1)	A,B,+,D, x, E	7
۴.,	Λ, (,	A,B,+,D,+,E,F,-, A,B,+,D,+,E,F,-, A,B,+,D,+,E,F,-, ^	4
. )	Λ	A,B,+,D,A,E,F,-	
	Empty	A,B,+,D, N,E,F,-, 1	10
i	11		F
Postfix	21 porthagens	A,B,+,D,+,E,F,-,^	7
, 3	3 2 3 1 3 1 3 2 3 3 3 3 3 3 3 3 3 3 3 3	+ 1	

Q Convert following infix to Postpix Expression 3>
A+B/C+(D+E)-F

	101 100		
Solution:>	Stack	Postfix Expression	ľ
A	Empty	Α	
+	+	Α	
B	+	A,B	
/	+,//	AIB.	
C	+,/	A.B.C	
*	+,4	A,B,C,/	
(	+, +, (	A, B, C, /	
D	+, 4, (	A.B.C. /, D	
+	+, 4, 6,+	A,BC, I,D	
£	+, >, (,+	A.B.C./.D.E	
) u.	+,*	A,B,C,/,D,E,+	
	→ . v. ~ . * . h !	A,B,C,/,D,E,+,+,+,F	
F 1,+	- ', ' ), * · · \	A,B,C,/,D,E,+,+,+,F	
j - " " " " "	Empty	A,B,C,/,D,E,+,x,+,F,-	

2. Postfin Empression is ABC/DE+++F-



## Convert the Following infix to Partition Expression: ANB+C/(D+E-F)

Silution Symbol	Stack	Postfix Expression
A	Empty	A
^	A 0	A
ß	^	A.B
*	4	A.B, A
C a	*	AB,A,C
1	1 A. Maria	A,B,1,C,+
(	1, (	A,B, 1, C, 7
D	1, (	A,B,A,C,Y,D
. *	1, c, +	A,B,A,C,A,D
E	1, (,+	A,B, A, C, A, D, E
-	/, c,-	AB, A, C, Y, D, E, +
E	7, (,-	AB, A, C, N, D, E, +, F
)	7 100 1 121	A,B,A,C,X,D,E,+,F,-
F. E. al	Empty	A,B,A,C,A,D,E,A,F,-,/

B Convert following infix expression to postin expression.

Solution:>	71-070-07-1	1	7. 4. 1	
Symbol	Stack	Postyia E	xprograg	1.9
Α	Empty	Α	111111111111111111111111111111111111111	*
-		A		
8	<del>-</del>	A,B	1	
/	<b>-</b> ,/	A,B	1.7	
C	-,/	A,B,C	V 1 2	4
^	-,/,^	A,8,C	4.7	Ü
D	-,/,	A,B,C,D	1 1 5	72
<del>-}</del> -	-, 4	A,B,C,D, A	16,1 11	
E	-,4	A,B,C,D, 1,		
+	+	A, B, C, D, 1,	1,E,+,-	
F	+	A, B, C, D, 1,	,e,,-,F	
/ "	t, A	A,B,C,D,A,	1,£,4,-,F	
G	4,/1.6.1	A,B,C,D,A,	1, E, *, -, F	,G
T.,	Emp-fg	A,B,C,D,1,1	, F, 7, -F, 6	1,15+

-> Postfix Expression is: ABCDA/EN-FG/+

and the second with the second

- Video Tylen in the state of t

- 121 - my K. m. 142. 1. 2.2.

(S) Convert given infix expossion to postfix expression.

8 \* (5 \( 4+2 \) - 6 \( 2 \) / (9 \* 3)

۰.		84 (57774)	2/(1.3)	
Sol	Symbol	Stack	Postfix Expression	L
	8	Emply.	8	Λ
	(	¥,(	8	1.
	5	-x, (	8,5	
	^	4, (, ^	2,3	
	4	4, (, 4	8,2,4	4
	+	*,(,+	8,5,4,	
	2	¥, (,+\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	8,5,4,1,2	
	- )	*	8,5,4,1,2,+	
	_	_	8,5,4,1,2,+,+	
	G	As Service	8,5,4,1,2,+,4,6	•
	^	-j^-	8,5,4,1,2,+,7,6	**
	2	-, A 1/1.5 15, 8	8,5,4,1,2,+,4,6,2	Ţ.
	1, 1	-,/	8,5,4,1,2,4,4,6,2,1	
	1 ( )	-11,6	8,5,4,1,2,+,4,6,2,1	T
	9	-,1,(	8,5,4,1,2,+,4,6,2,1,9	1
		-,/,(;*·	8,5,4,1,2,+,4,6,2,1,9	
	3	-,/,(,4		
	)	l 1	B, S, Y, 1, 2, +, 7, 6, 2, 1, 9	, 5
		-,/	8,5,4,1,2,+,4,6,2,1,9,3,	5 p* 24 / -2
^	Po other	C		
		-1-11-12	11,2,+,4,6,2,1,9,3,4	,/,-
1				

Selo 7+5+3^2/(9-2^2)+6+4

2	•	
Symbol	Stack	Postfin Expression
		7
7 7 5	+	7
	+	7,5
+	+,4	7,5
3	+,+	7,5,3
^	+,4,0	7,5,3
2	+,*,^	7,5,3,2
/ 1	+,/	7,5,3,2,1,7
(* , ,	+,从	7,5,3,2,0,4
9	+-,/,(	7,5,3,2,1,4,9
_	+,,(,,-	7,5,3,2,1,9
2	+,/,(,-	7,5,3,2,1,7,9,2
^	+,/,(,-,^ +,/(,-,^	7,5,3,2,1,4,9,2
2	ナル・・・ヘ	7,5,3,2,0,4,9,2,2
)	+,/	7,5,3,2,1,4,9,2,2,1,-
+	+	7,5,3,2,1,4,9,2,2,1,-,1,+
6	+	3,5,3,21,4,9,2,2,1,-,1,+,6
*	+,→	7,5,3,2,1,4,9,2,2,1,-,1,+,6
4	1,4	7,5,3,2,1,4,9,2,2,1,-,1,+,6,4
3		7,513,2,1,4,9,2,2,1,-,/+,6,4,4,+

.. Portfix Euprossion is 7532149221-14644+

Q. Evaluate the postfix expression 562++124/-

Dung sinch.	1 1 1		
Symbol	Stack	Postfix	Expression (B opA)
5 6 2 +	5 5,6 5,6,2 5,8 40	[6+2] [5#8]	(A=2, B=6) (A=8, B=5)
12	40,12 40,12,4 40,3 37	[12/4] [40-3]	(A=4,B=12) (A=3,B=40)

o Answer = 37.

B Evaluate	1273-/21	5 + 4 + using stack.
Symbol Symbol	Stack	Operation (B op 4)
12 7	12,7	
3	12,7,3	CA 2 (-W)
-	12,4	[7-3](A=3,B=7)
7	_3	[12-4] (A=4,13=12)
2	3,2,4	the training
-/ 1/4 1 h	3,2,1,5	[1+5] (A=5,B=1)
4	3,12	[2 H 6] (A=6, B=2)
4	15 1	(3+12) (A=12, B=3)
- Answe	8 = 15	

& Evaluate 7532 ~ 4922 ~ - / + 644+ (9) Using stack.

03.2		fi .
Symbol	Stock	Operation (B up A)
7	7	
5	7,5	T.
. 3	7,5,3	2549
2	7,5,3,21	
. ^.	7,5,9	[312] (A=2,B=3)
7	7,45	[5#9] (A=9,B=5)
( 9	7,45,9	S
(8 - 2 , E =	2,45,9,2	1 12
( 2. th	7,45,9,2,2	
^	7,45,9,4	[212] (A=2,B=2)
, <del>-</del>	7,45,5	[9-4] (A=4,B=9)
1 1 2 -	7,19	[45./5] (A=5, B=45)
4.	IG ( 5-19)	[7+9] (A=9,B=A)
6	16,6	
11.44	16, 6, 4	
*	16,24	[644] (A=4,B=6)
+	40	[6+4] (A=4,B=6) [16+24] (A=24,D=16)
1.7	1	Table 1

3. Answer = 40

By Emlurte 593/21+++62/-3+ using STACK.

		•
Symbol	Stack	Operation (B op A)
5	5	v
5 9	5,9	
3	5,9,3	
/	5,3	[9/3] (A=3, B=9)
2	5,3,2	Pr
1_	5,3,2,1	
+	5,3,3	[2+1] (A=1,B=2)
*	5,9	[3+3] (A=3, B=3)
/	14	[5+9] (A=9,B=5)
в	14,6	1-
2	14,6,2	
madiya 🐠	14,3	[6/2] (A=2,B=6)
(- 171-4)	Had H	[14-3] (A=3,B=14)
3	11,3	100
3 +	14.	[11+3] (A=3,B=11)
	11	, , , , , , , , , , , , , , , , , , , ,

3 Answer = 14

& Evaluate 7532 ~ 4922 ~ - / + 644+ (9)

Osing S.	Ect.		1.
Symbol	Stock	4	Operation (B op A)
7	7		
5	7,5		
. 3	7,5,3		_ +f = x
2	7,5,3,2		
. ^ -	7,5,9		[312] (A=2,B=3)
4	7,45		[5+9] (A=9,B=5)
(-9	7,45,9		
( <b>2</b>	7,45,9,2		7 1 1 2
2.1	7,45,9,2,2		
^	7,45,9,4		[212] (A=2,B=2)
_	7,45,5		[9-4] (N=4,B=9)
17.	7,910		[45/5] (A=5, B=45)
111 - 47	IG ( Day		[7+9] (A=9,B=H)
6 4 +	16,6		
111-4.0	16,6,4		
*	16,24		[6+4] (A=4,B=6)
4	40 -	2.3.1	[6+4] (A=4,B=6) [16+24] (A=24,B=16)
4.5		1.3	50 M/1 -400

3. Answer = 40

0 Evaluate 432 1+18+22+1-2- using stack.

Symbol	Stack	Operation (B op A)
4	4	
3	4,3	
2	4,3,2	
^	4,9	[3 12] (A=2,B=3)
(1 . dt 1.	13.	[4+9] (A=9, B=4)
1	13,1	
8	13,1,8	
1. * 1.	13,8	[ 1 + 8] (A-8, B=1)
2	13,8,2	
2	13,8,2,2	
(C = +2 =1)	13,8,4	[2+2] (A=2,B=2)
/	13,2	[814] (A=4,B=8)
, i <del>-</del>	U .	[13-2] (A=2,B=13)
	11, 2	F (1)
$f(x) = \frac{x^2}{x^2} \cdot x^2 - \frac{x}{2}$	9	[11-2](A=2, B=11)
	wer = 9	
a. PINS	wer - 1	

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& Evaluate 23 1-42/6++31+2/-

To One the forgon through the control of the contro			1.9
-	Symbol	Stack.	Operation (B op A)
-	2	2_	1. 4
	3	2,3	
	(* A	80000	[2 13] (A=3, B=2)
	( 1 0 m	8,1 7	[8-1] (A=1, B=8)
	4	7,4	
	( 2 ,	7,4,2	[4/2] (A=2, B=4)
	/	7,2	
	C	7,2,6	
	*	7,. 12	[2+6] (A=6,B=2)
)	+	19	[7+12] (A=12,B=7)
	3	19,3	8 1
	1	19,3,1	111
	+	9,4	[3+1] (A=1,B=3)
	2 .	19,4,2 19,2 17	[4/2] (A=2,B=4) [19-2] (A=2,B=19)
	. /	19,2	
	_	17	[19-2] (A= 2, B=19)
		į,	

. AN = 17

Convert igfix Expression 2+3/(2-1)+5+(4-1) into preginc form using stack. Sols Infix = 2 × 3/(2-1)+5 + (4-1) Reversed Expression: )1-4(45+)1-2(/3×2 Prefix Expression (Right to Left) Symbol Stack 1,4 1,4,-1,4,-1,4,-,5 1,4,-,5,+ + 1,4,-,5,4 +,) 1,4,-,5,4,1 +,) +,),-1,4,-,5,4,1 1,4,-,5,4,1,2 +,),-1,4,-,5,4,1,2, 4, /4 1000 1,4,-,5,7,1,2,-1,4,-,5,+,1,2,-,3 キューカルナ のりのい 1,4,-,5,4,1,2,-,3 1,4,-,5,4,1,2,-,3,2 4,/,4 Empty 1,4,-,5,4,1,2,-,3,2,4,/,+ Reverse output string: +/423-2145-41 .. Pre-fix Expression is +/#23-2145-41

Convert grow infix exposedion to poefix exposedion using (9) (8+2)/2+3-2/1+3 Solo Infin Expression : (8+2)/2+1-2/1+3 Revenue infin expression: 3+1/2-3+2/)2+8 ( Stack Regin Expression (Right to Left) Cymbol 3,1 3,1 3,1,2 3,1,2,/ 3,1,2,/,3 3,1,2,1,3 ナノー・ナ 3,1,2,1,3,2 +,-,+ 2 3,1,2,1,3,2 +,-,4,1 3,1,2,1,3,2 +, -, 4, /, ) . 3,1,2,1,3,2,2 H, -, +, /, ) 1.1. 3,1,2,/,3,2,2 +,-,1,1,),+

Reyonse output string: +,-,+,/,+,8,2,2,3,/,2,1,3
.: Poelin Expression: +,-,+,/,+,8,2,2,3,/,2,1,3

4, -, 4, (, ) 54 31

1,4,1

Empty

3,1,2,1,3,2,2,8

3,1,2,1,3,2,2,8,+

3,1,2,1,3,2,2,8,+,/,4,-,+

Convert following infix expossion to equivalent profix @ Using Stack. A-(B+C)+D/E

INFX Exprassion: A- (B+C)+D/E Reversed Infix Expression: E/D+)C+B(-A

i.	Symbol	Stack	Page Com April
_	E	Empty	Pagin Exprassion (Right-to-Left
	7	1 0	£ .
	D	/	E, D
	*	1,4	E,D
	)	/,-7,)	6,0
	C	(,*,)	E,D,C
	+	(, 4,),+	E,D,C
	B	1,4,),+	E,D,C,B
1	(	1, *	E,D,C,B,+
			E.D, C, B, +, +, /
	A	4,7 € ,7 (Ø , 7 , ° )	E,D,C,B,+,+,/,A
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Empty	E.D,C.B,+,4,1,A,-

Revosse Output Expression: -, A,/,+,+,B,C,D,E Prefix Expression: -, A,1,7,+,B,C,D,E

Of Convert following infix exposession to prefix expression using stack.

H ^ (J+K) + I% S

Sely Progra Expression: H^(J+K) 4I%S
Roverse Program Expression: S%I+)K+J(^H

1

	- '	٠ .
Symbol	Stack	Postix Expossion (Right - to-les)
2	, P. P.	S , 3.
1.	7.	2
1	7	2.2
4	%,*	S,I
)	%,+,)	2,2
K	7,*,)	2,1,1
	7, 4,),+	2,2,5
5	7, 4,),+	S, I, K, J
(	76,×	52, 5, +
	%, 4, ~	S,2, K, J,+
н	1, * ^	S, 2, K, J, +, H
-,/A	1, 15, 4-, 21, 5, 24, 5	C, T, K, J, H, A, +, 76
	. P	

Roverse Output Expression: 1,4,0,4,0,4,5,K,I,S
Pressix Expression: 1,404+JKIS