

ABHISHEK NAYAK

ASSIGNMENT 5

Dt → 10/11/20

Q1) Explain the terms infix expression, prefix expression, and postfix expression. Convert the following infix expressions to their postfix equivalents.

Q2) $A - B + C$.

Ans → Postfix

$$\begin{aligned} & (A - (B + C)) \\ \Rightarrow & (A - [B + C]) \end{aligned}$$

$ABC + -$

Q3) $A * B + C / D$.

Ans → Postfix

$$\begin{aligned} & ((A * B) + (C / D)) \\ \times & ([AB *] + [CD /]) \end{aligned}$$

$AB * CD / +$

Q4) $(A - B) + C * D / E - C$

Ans → Postfix

$\Rightarrow [AB - CD * + E / C -]$

Q1) CA
Ans → PO

Q2) $((A - B)$
Ans → P

Q3) CA
Ans → Post

Q4) 1
Ans → pos

B. Q → pos

Q2. For
postfix

Q3) AB
Ans → A

$$\textcircled{1} \quad (A * B) + (C / D) - (D + E)$$

$$\text{Ans} \rightarrow \text{Postfix} \rightarrow ([AB*] + [CD/] - [DE+])$$

$$AB * CD / + DE + -$$

$$\textcircled{2} \quad ((A - B) + D / ((E + F) * G))$$

\rightarrow Ans \rightarrow Postfix \rightarrow

$$([AB-] + D / ([EF+] * G))$$

$$AB - DEF + G * / +$$

$$\textcircled{3} \quad (A - 2 * (B + C) / D * E) + F$$

\rightarrow Ans \rightarrow Postfix \rightarrow

$$(A - 2 * [BC+] / D * E) + F$$

$$A2BC+ * - DE * / F +$$

$$\textcircled{4} \quad 14/7 * 3 - 4 + 9/2$$

$$\text{Ans} \rightarrow \text{Postfix} \rightarrow (14/7) * 3 - 4 + (9/2)$$

$$147/3 * 492/ + -$$

Q. Convert the following equivalents of the following

Q. Find out the infix equivalents of the following
postfix equivalents.

$$\textcircled{1} \quad AB + C * D -$$

$$\text{Ans} \rightarrow (A + B) * C - D$$

Ans.

$$(b) ABC * + D - [C] \rightarrow [A * C] + [-D A]$$

Ans $\rightarrow A + (B * C) - D$ Ans

Q3 → Give the infix
prefix expressions.

$$(a) * - + ABCD$$

$$\text{Ans} \rightarrow ((A+B)-C)*D$$

$$(b) +-a *BCD$$

$$\text{Ans} \rightarrow (B*C) - a + D$$

$$(H+C) - (G \vee F) + (E * A)$$

$$+ B * C D + H C D + B A$$

$$- E + B C D + H C D + B A$$

$$((D * (H+E)) \setminus (C + (B-A)))$$

$$+ C D + B A$$

$$(S|P) + P + S * (P|P)$$

$$+ S P + S | P$$