1. What Does This Program Do?

If A$ is 128 characters in length, what is the length of E$ after the following program is RUN?

    10 B$ = LEFT$ (A$, 100)
    20 C$ = MID$(A$, 52, 12) + MID$(B$,26,13)
    30 D$ = RIGHT$(C$, 13)
    40 E$ = B$ + C$ + D$

2. Prefix-Infix-Postfix

Rewrite the following infix expression in postfix:

   A (B + D) / (C − E)

3. Prefix-Infix-Postfix

Given A = 2, B = 4 and C =8, evaluate the following prefix expression:

   + - + A * B C + A C C

4. Data Structures

If a binary tree is formed using the letters of the word MONTREAL, what is the internal path length of the tree?

5. Data Structures

Consider an initially empty stack and then execute the following commands on that stack. What element is at the top of the stack?

    PUSH (A)
    PUSH (B)
    POP (X)
    PUSH (C)
    POP (X)
    POP (X)
    PUSH (D)
    PUSH (E)
    PUSH (F)
    POP (X)
    POP (X)