

# American Computer Science League

2022-2023 • Contest 2: Short Problems • Junior Division

<b>1. Prefix/Infix/Postfix Notation</b>  Evaluate the following prefix expression if all numbers are single digits:  $+ - * 2 3 / 4 2 ^ 2 3$	A. 14 B. 4 C. 12 D. 10 E. 6
<b>2. Prefix/Infix/Postfix Notation</b>  Convert the following infix expression to postfix:  $\frac{A+B}{C} - \frac{B*C}{A-C}$	A. $AB+C/BC*AC-/-$ B. $A+BC/BC*AC-/-$ C. $ABC+/BC*AC-/-$ D. $AB+C/B*CAC-/-$ E. $AB+C/BC*A-C/-$
<b>3. Bit-String Flicking</b>  Evaluate:  10100 OR 01100 AND 01011	A. 01000 B. 11100 C. 00111 D. 11111 E. 00000
<b>4. Bit-String Flicking</b>  Evaluate:  (LCIRC-2 (RSHIFT-1 (NOT 01110)))	A. 00010 B. 10001 C. 00001 D. 00100 E. 01100

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**5. What Does This Program Do? (Looping)**

What is the following program's output for the given input values?

p = 1000, r = 10, t = 3

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input p, r, t
o = p
for c = 1 to t
    i = p * r / 100
    p = p + i
next c
f = p - o
output f
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- A. 100
- B. 110
- C. 121
- D. 331
- E. 1331

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