American Computer Science League

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1. Prefix-Infix-Postfix

Evaluate the following prefix expression if all numbers are single digits:

$+ - / * 3\ 6\ 2 / + 3\ 9\ 4\ \wedge 2\ 3$

A. -2
B. 6
C. 12
D. 14
E. 17

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2. Prefix-Infix-Postfix

Convert this infix expression to postfix:

$$\frac{A^2 + B}{C} + ABC$$

A. A2^B+/CAB*C*+
B. A2^B+C/AB*C*+
C. A2^B+C/A*BC*+
D. A2B^+C/AB*C*+
E. A2^B+C/ABC**+

---

3. Bit-String Flicking

Evaluate the following expression:

(01011 OR (NOT 10010) AND 00011)

A. 01011
B. 00101
C. 11011
D. 00011
E. 01010

---

4. Bit-String Flicking

Evaluate the following expression:

(NOT (RSHIFT-2 (LCIRC-2 10011)))

A. 11000
B. 00111
C. 10100
D. 11001
E. 11100

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5. What Does This Program Do? (Loops)

What is the final value of c when this program is executed?

```
c = 0
for i = 1 to 50
      if i % 4  == 3 then c = c + 1
next i
for j = 2 to 50 step 2
      if j % 6 == 0 && j % 4 != 0 then c = c + 1
      if j % 7 == 0 then c = c+ 1
next j
```

A. 15
B. 17
C. 19
D. 21
E. 23

1. - - $+-/*362/+394^23$	A. -2 B. 6 C. 12 D. 14 E. 17
2. - - : $\dfrac{A^2+B}{C}+ABC$	A. A2^B+/CAB*C*+ B. A2^B+C/AB*C*+ C. A2^B+C/A*BC*+ D. A2B^+C/AB*C*+ E. A2^B+C/ABC**+
3. : (01011 OR (NOT 10010) AND 00011)	A. 01011 B. 00101 C. 11011 D. 00011 E. 01010
4. : (NOT (RSHIFT-2 (LCIRC-2 10011)))	A. 11000 B. 00111 C. 10100 D. 11001 E. 11100

5. **? (   )**
 	
 c
 	
 c = 0
 for i = 1 to 50
     if i % 4 == 3 then c = c + 1
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     if j % 6 == 0 && j % 4 != 0 then c = c + 1
     if j % 7 == 0 then c = c+ 1
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	A. 15
	 B. 17
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