

SRJC - CS 10A: Worksheet 3

SOLUTION

Solve the following, specify your answer's base:

(2 points each)

1. $0b1111 \mid 0b1010 \& 0b101 = 0b1111$ or 15

2. $0b1010 \gg 1 = 0b101$ or 5

3. $063 \& 075 \mid 0b10110 \& 011 = 0b110001, 061, 49$

4. $\sim(0xdecaf) = 0x21350$ or 136016

5. $0xfeed \wedge 0xbeef = 0x4002$ or 16386

6. $0xb8 \gg 2 + 28 / 034 * 0b11 = 0b101$ or 5

Evaluate each statement. Circle either T or F.

(2 points each)

7. $0xaaa \ll 4 > 0xee \ll 3$ T F

8. $4 \geq 7 \&\& 0x23 < 99$ T F

9. $(0b1100 \wedge 0xdab) == 0xbad \gg 6$ T F

10. $0b0 \mid \mid 0x01$ T F

11. $!(0xba \ll 4 == 0xba0)$ T F

12. $031 == 25$ T F

Simplify the logic operation on the left into exactly one line using the conditional operator.

(2 points each)

13. $\text{if}(x < w)$
 $\quad x++;$
 else
 $\quad x--;$
 $(x < w) ? x++ : x--;$
 Parentheses are optional, but they do make the conditional statements easier to read.

14. $\text{if}(x == w)$
 $\quad i = y;$
 else
 $\quad i = z;$
 $i = (x == w) ? y : z;$
 Parentheses are optional.

15. $\text{if}(x > w)$
 $\quad i = y;$
 $\text{else if}(x < w)$
 $\quad i = z;$
 else
 $\quad i = y + z;$
 $i = (x > w) ? y : ((x < w) ? z : y + z);$
 $i = (x != w) ? ((x > w) ? y : z) : y + z;$
 Parentheses are optional. Conditionals are interpreted right to left.

Translate the following bit sequences into text. Pay attention to the base used: (2 points each)

16. $0b11101001000100 = :D$

17. $0b11011000110111101101100 = lol$

18. $0x285E5F5E2976 = (\wedge _ \wedge)v$

19. $0x435320313041 = CS\ 10A$

20. $28271 = no$

* 21. $0415172544450413230471 = COVID-19$

* Extra Credit