

Quiz 2 KEY

PROBLEM SOLVING IN C
(CSCE 105, SUMMER 2006)

URL: <http://www.cse.unl.edu/~cstrope/csce105su06/>

(20 points)

20th July, 2006

Name :
Course No : **CSCE105**

1. (5 points)

Assuming that the value of **x** is 1, the value of **y** is 4, and the value of **z** is 14, give the value of the following conditional statements:

Expression	Value
<code>x <= 1 && y == 3</code>	0 or false. <code>1 && 0</code>
<code>!(x > 1)</code>	1 or true
<code>x <= z >= y</code>	0 or false. This statement is valid: Its precedence is left to right. Thus, <code>x <= z</code> evaluates to true, or 1. The second half is then <code>1 >= y</code> , which is false, or 0.
<code>!(x <= 1 y == 3)</code>	false or 0.
<code>x >= 1 && !y == 3 z < 14</code>	false. The statement <code>!y == 3</code> is false, so the last condition does not need to be evaluated (it is short-circuited).

2. (5 points)

Take the english conditions and translate them into C conditional statements:

a. x is less than y and y is less than z	<code>x < y && y < z</code>
b. x is true and z is equal to y	<code>x != 0 && z == y</code> (<i>Remember, only 0 is false!!</i>)
c. y is greater than or equal to x and z is less than y	<code>y >= x && z < y</code>
d. z is not equal to x and y is false	<code>z != x && y == 0</code>
e. y is equal to either 3 or 4	<code>y == 3 y == 4</code>

3. (10 points)

Write range-eliminating *if-else* statements that will check to see if a variable, called **number**, is divisible by 3 and 5, but not divisible by 30. *HINT: You will need to use the % operator*

```
if(number % 3 == 0) {
    if(number % 30 == 0) ;
    else // print number
} else {
    if(number % 5 == 0) ;
    else // print number
}
```