

CS-141 Practice Boolean Operator Problems

Try writing a boolean expression for the conditions below. Assume the following variable declarations:

```
double temp, humidity;
double a,b,c;
String hairColor;
int age;
int x, y;
char c;
```

1. The temperature is above 90 or the humidity equals 90.
2. The mathematical expression $a > b > c$.
3. It is not true that a and b are both 0.
4. a divided by b is equal to 2 (and not infinite!).
5. The person's hair color is not red and their age is less than 21.
6. Neither x nor y are bigger than 10.
7. x is larger than y but smaller than 2y.
8. c is equal to the ascii letter q.
9. The character c is a letter of the alphabet. (hint: You will need to understand the ascii code)

Answers:

1. `temp > 90 || humidity == 90`
2. `a > b && b > c`
3. `!(a==0 && b==0)`
same as (using DeMorgan's Laws)
`(a != 0) || (b != 0)`
4. `b != 0 && a/b == 2`
5. `!hairColor.equals("red") && age < 21`
6. `x <= 10 && y <= 10`
7. `x > y && x < 2*y`
8. `c == 'q'`
9. `c >= 'A' && c <= 'Z' || c >= 'a' && c <= 'z'`