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’