

1) $(h \geq 180) \text{ NXOR } (hc == 'b') =$

NXOR

$1 \ 1 = 0$

$0 \ 0 = 0$

$1 \ 0 = 1$

$0 \ 1 = 1$

$!((h \geq 180 \ \&\& \ hc == 'b') \ || \ (!(h \geq 180) \ \&\& \ !(hc == 'b')))$

2) `bool isOk = h >= 180 & hc == 'b';`

`bool isOk = !((h >= 180) | (hc == 'b'));`

3) $\text{not}(\text{tall} \ \& \ \text{brunette}) = \text{!tall} \ | \ \text{!brunette}$

4) $h \ | \ h = h$ (if h is true the result will be true, if its false, it will be false)

$h \ | \ 0 = h$ (if h is false, it will be false, because false or true is true)

if h is false, the result will be false, because false or false = false)

$h \ | \ 1 = \text{true}$ (since at least one condition is true)

$h \ | \ \text{not } h \Rightarrow \text{false} \ | \ \text{true or true} \ | \ \text{false}$ either way the answer is true

5) $h \ \& \ h = h$ if $h = \text{false}$ it will be false, if it is true it will be true

$h \ \& \ 0 = \text{false}$, since one of the condition is false

$h \ \& \ 1 = \text{true}$ if h is true, false if h is false

$h \ \& \ \text{not } h \Rightarrow \text{false} \ | \ \text{true or true} \ | \ \text{false}$ either way the answer is false