

COEN 11 - Fall 2017 - Practice IX

Use bitwise operations to:

a. assign to char variable a the value of the right-most bit of variable b.

Answer: $a = b \& 1;$

b. assign to char variable a the value of the 4th right-most bit of variable b.

Answer: $a = (b \gg 3) \& 1;$

c. assign char variable b to char variable a, so that the 4 right-most bits of b become the left-most bits of variable a, and the 4 left-most bits of variable b become the 4 right-most bits of variable a.

Answer: $a = (b \ll 4) | (b \gg 4)$

d. change char variable a, so that the 4th right-most bit become 0.

Answer: $a \&= 247$

e. change char variable a, so that the 4th left-most bit become 1.

Answer: $a | = 16$

f. rotate the bits in variable x by 2, in the left direction.

Answer: $(x \ll 2) | (x \gg 6)$

g. rotate the bits in variable x by 2 in the right direction.

Answer: $(x \gg 2) | (x \ll 6)$