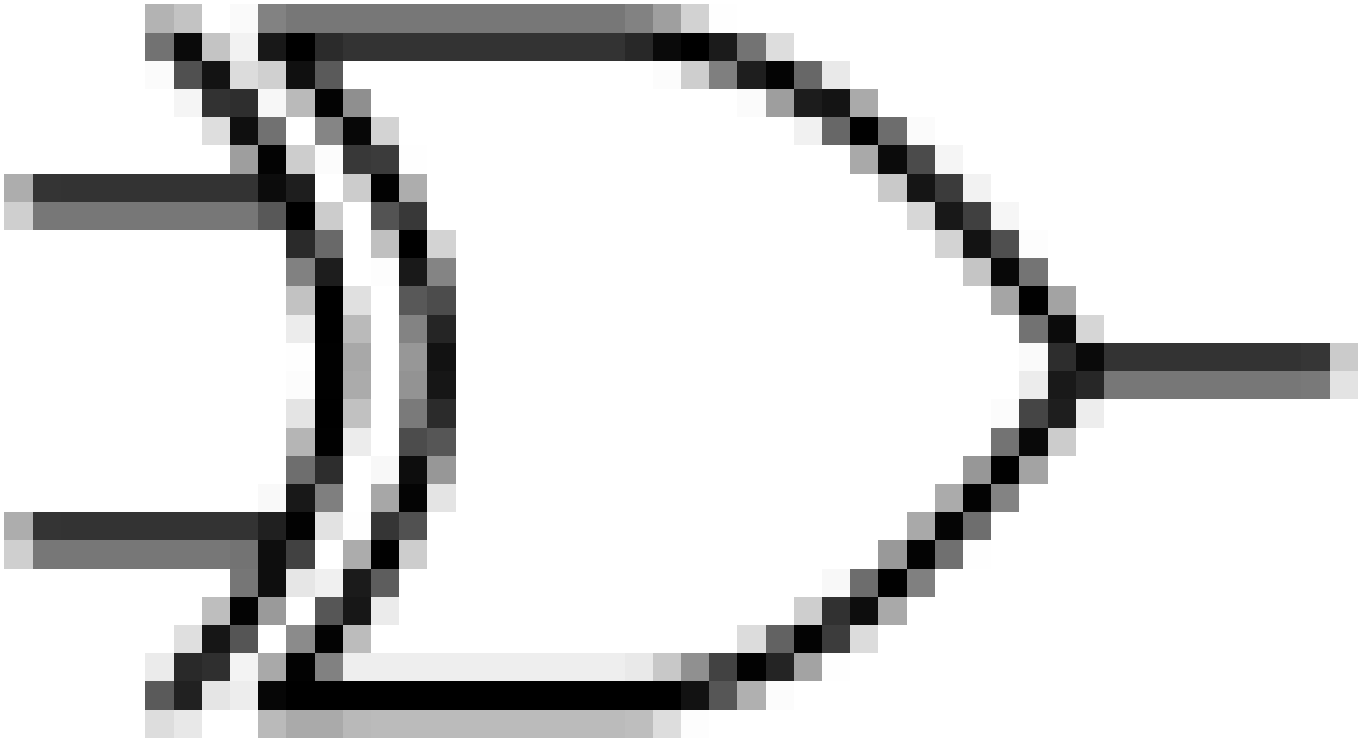
Question 1:

What is the output of the XOR gate with inputs 0, 0?



Options:

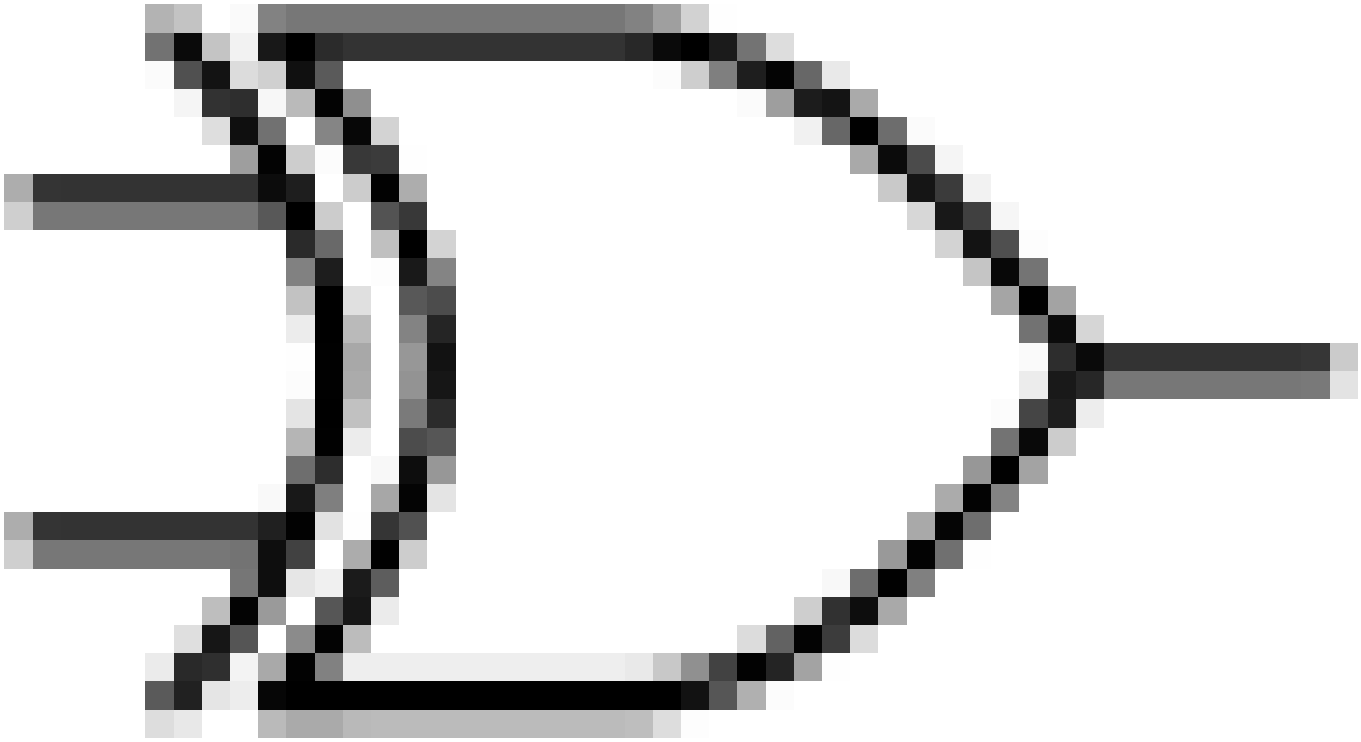
1. 0

2. 1

Correct Answer: 0

Question 2:

What is the output of the XOR gate with inputs 0, 0?



Options:

1. 0

2. 1

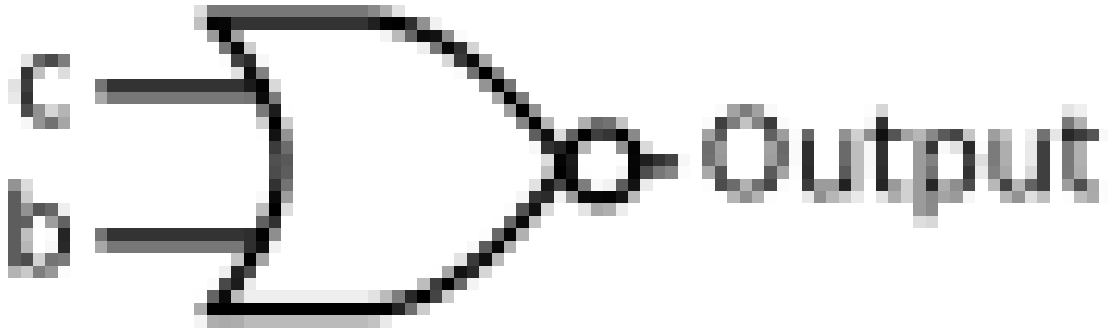
Correct Answer: 0

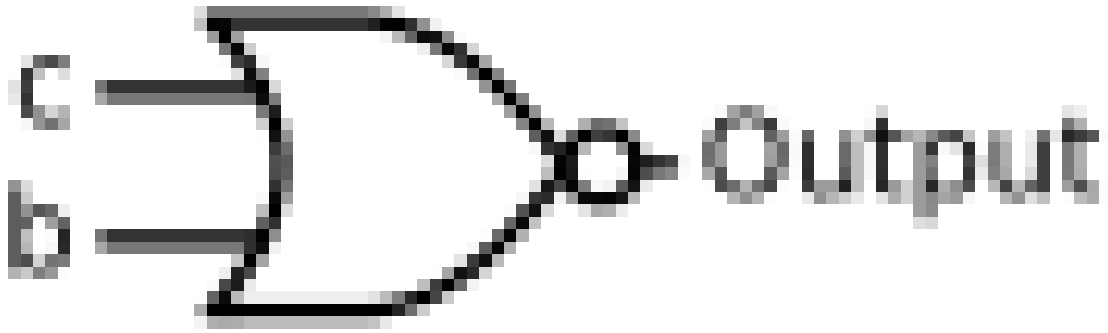
Question 3:

Are these two circuits equivalent?

Expression 1: (c nor b)

Expression 2: (c nor b)





Options:

1. Yes

2. No

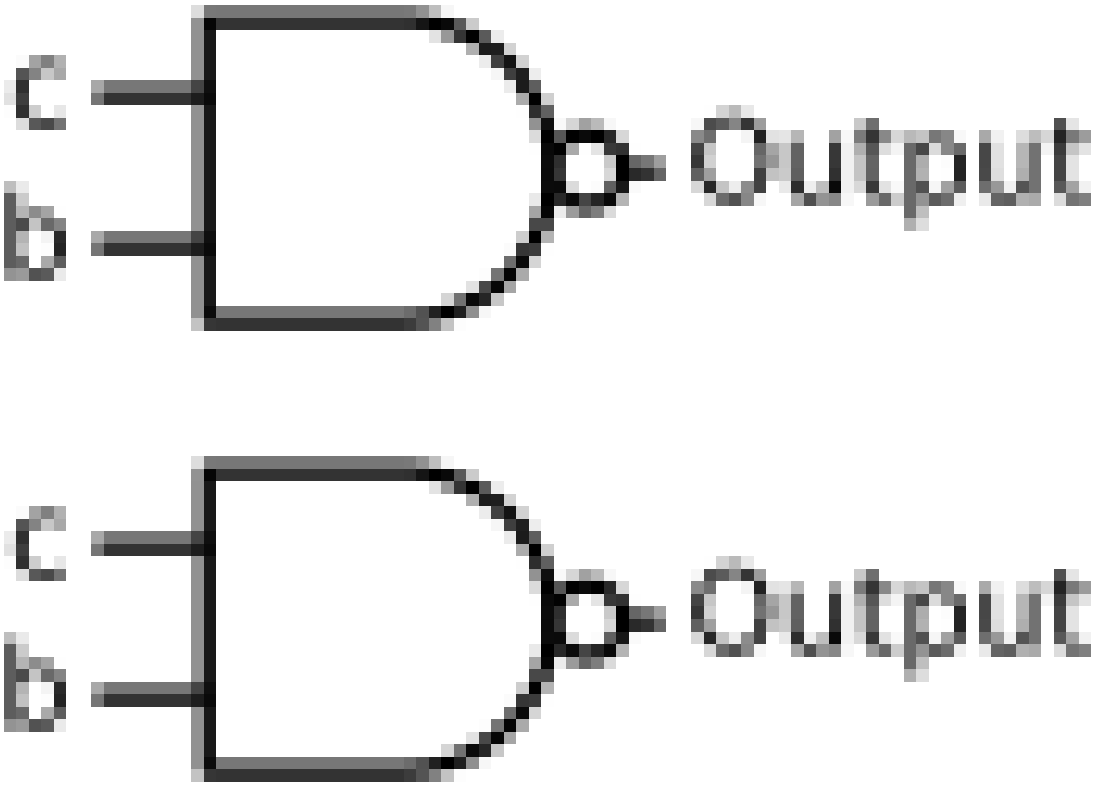
Correct Answer: yes

Question 4:

Are these two circuits equivalent?

Expression 1: (c nand b)

Expression 2: (c nand b)



Options:

1. Yes

2. No

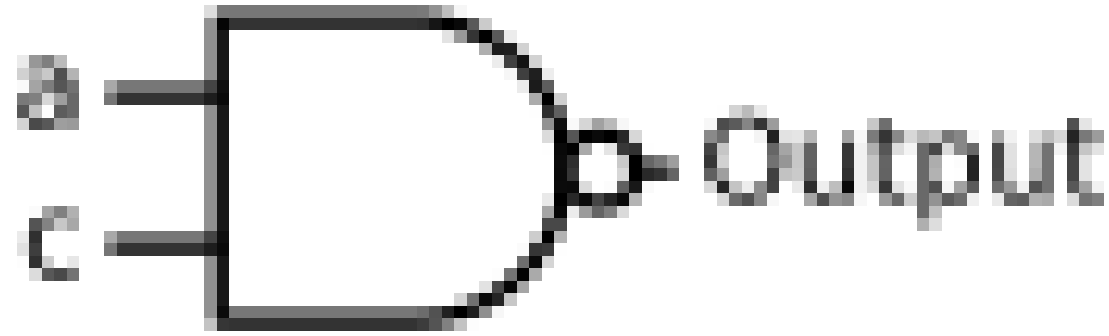
Correct Answer: yes

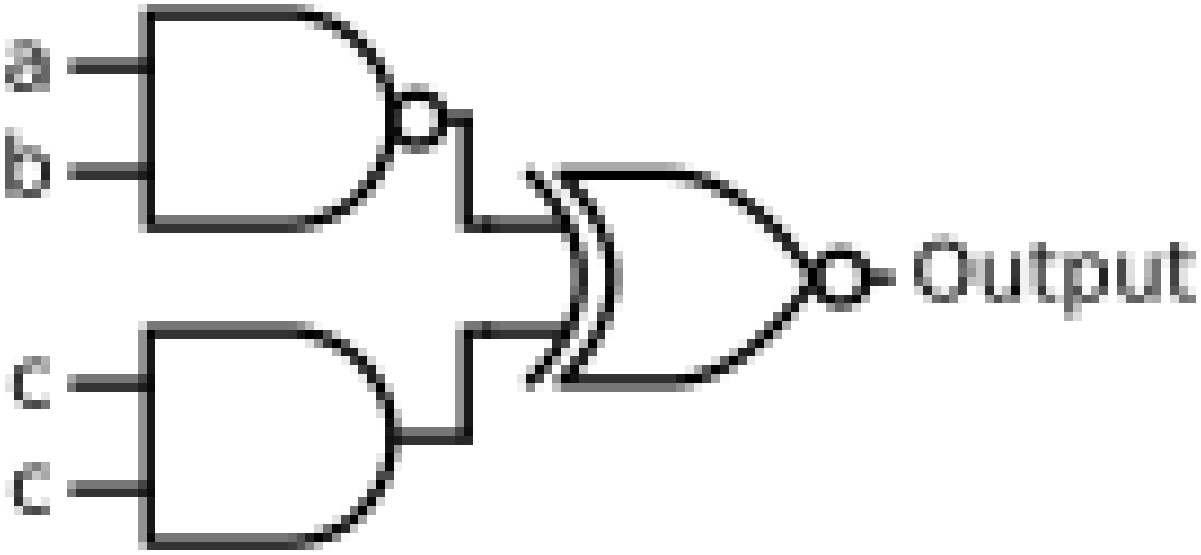
Question 5:

Are these two circuits equivalent?

Expression 1: (a nand c)

Expression 2: ((a nand b) xnor (c and c))





Options:

1. Yes

2. No

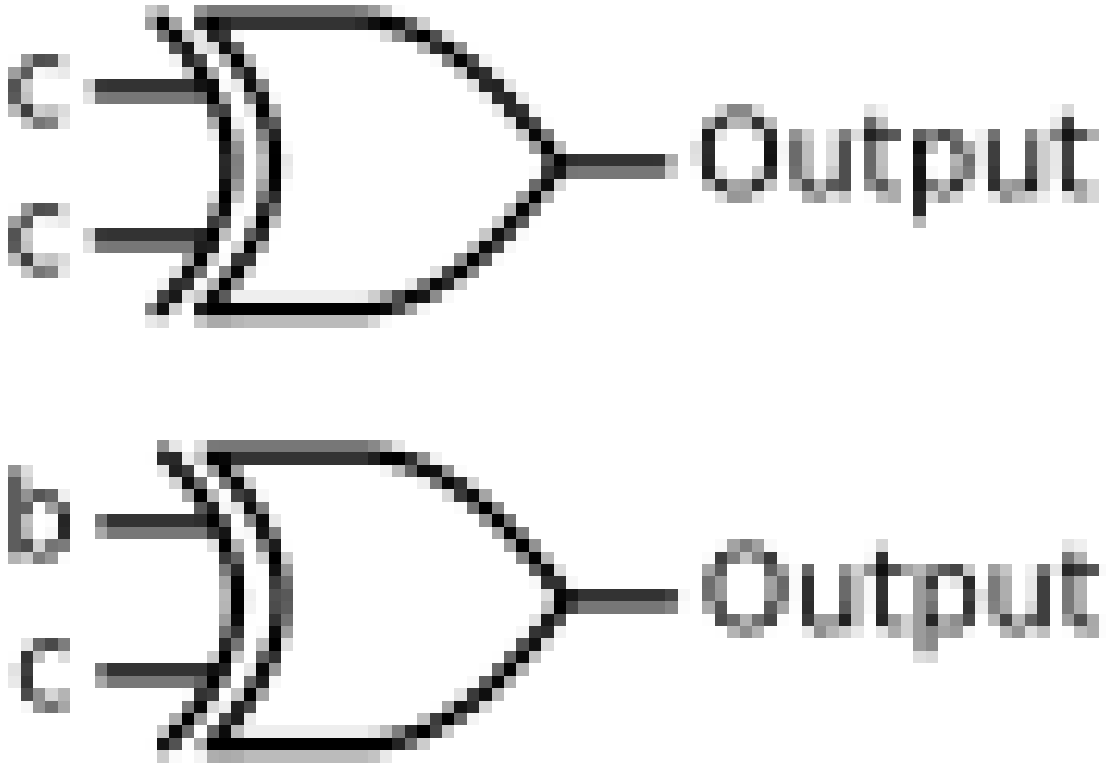
Correct Answer: no

Question 6:

Are these two circuits equivalent?

Expression 1: (not (c xnor c))

Expression 2: (b xor c)



Options:

1. Yes

2. No

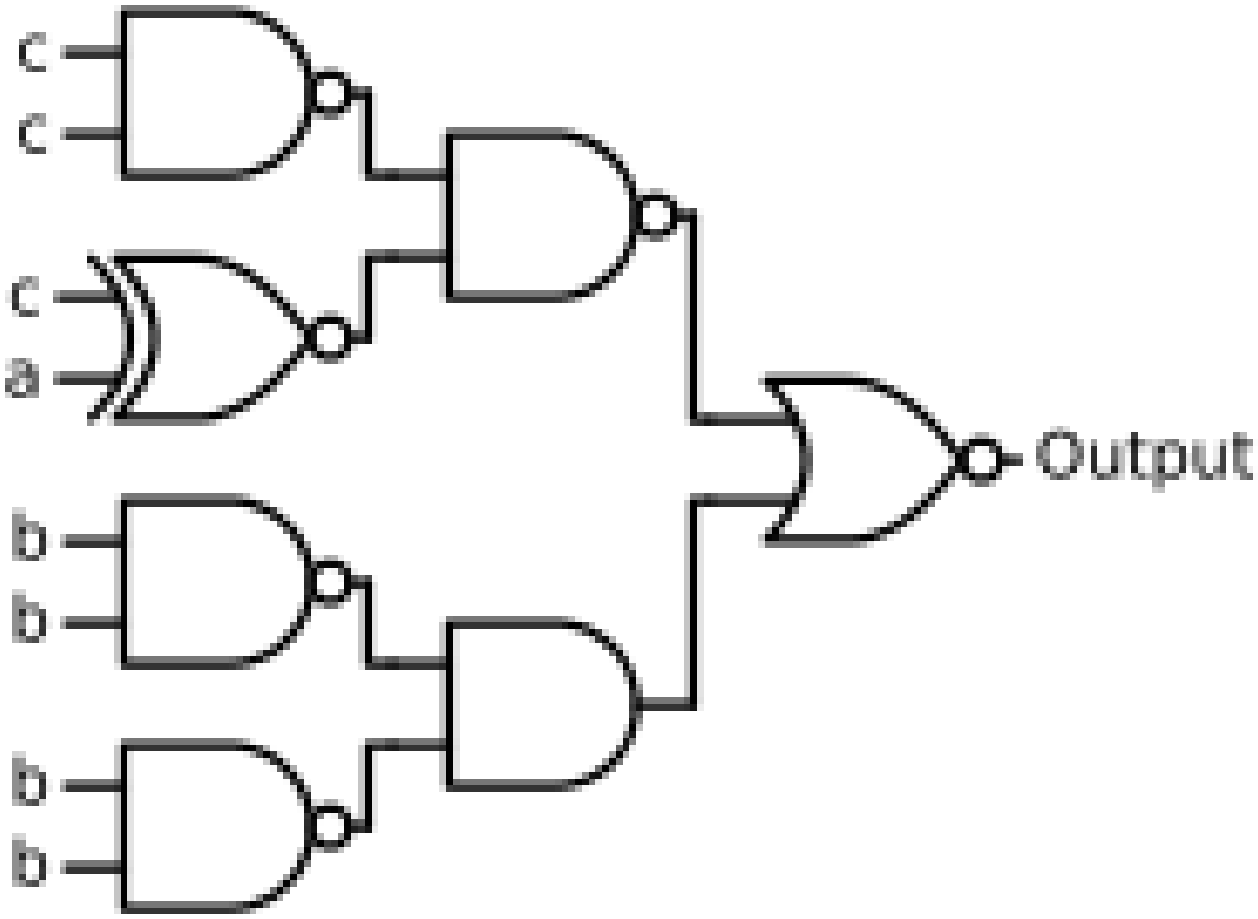
Correct Answer: no

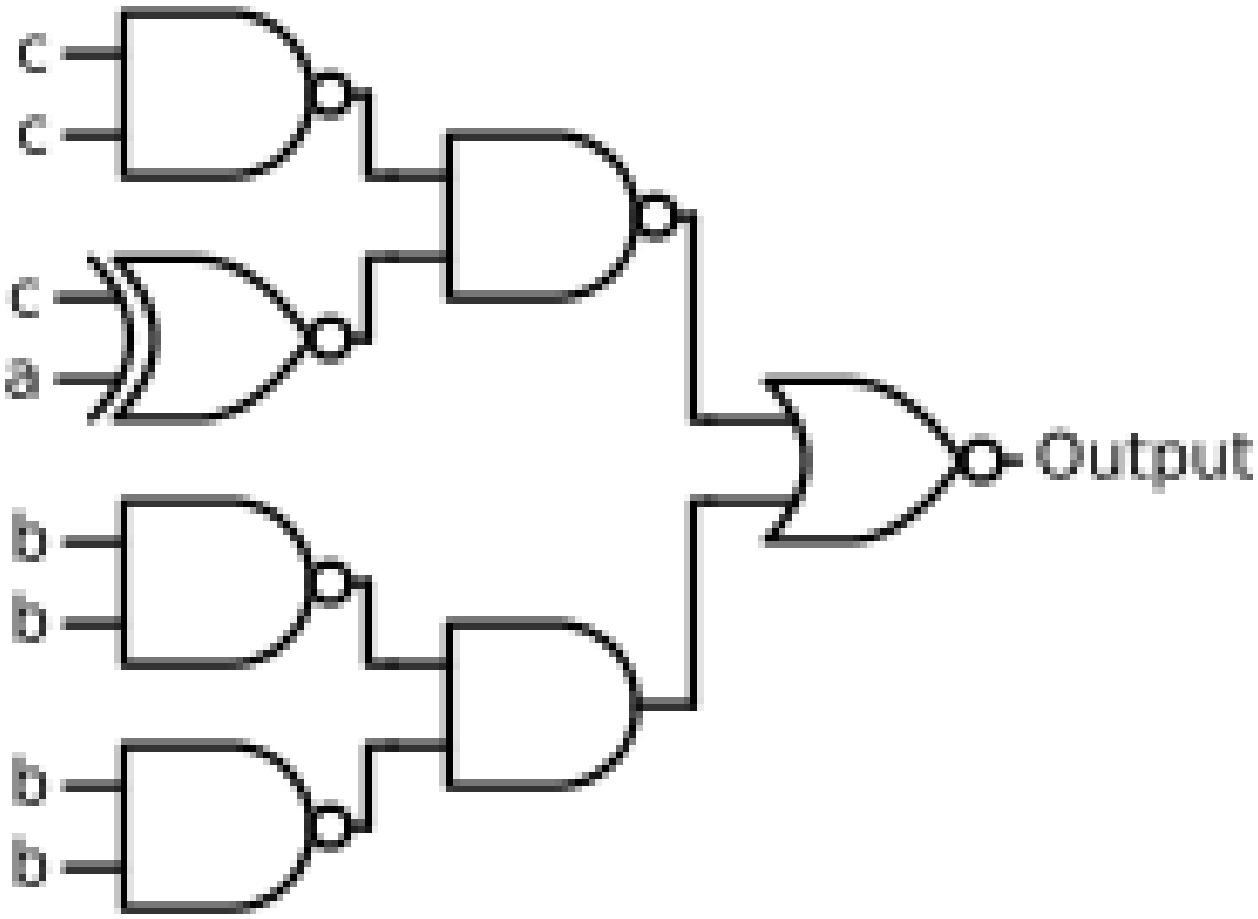
Question 7:

Are these two circuits equivalent?

Expression 1: (((c nand c) nand (c xnor a)) nor ((b nand b) and (b nand b)))

Expression 2: (((c nand c) nand (c xnor a)) nor ((b nand b) and (b nand b)))





Options:

1. Yes

2. No

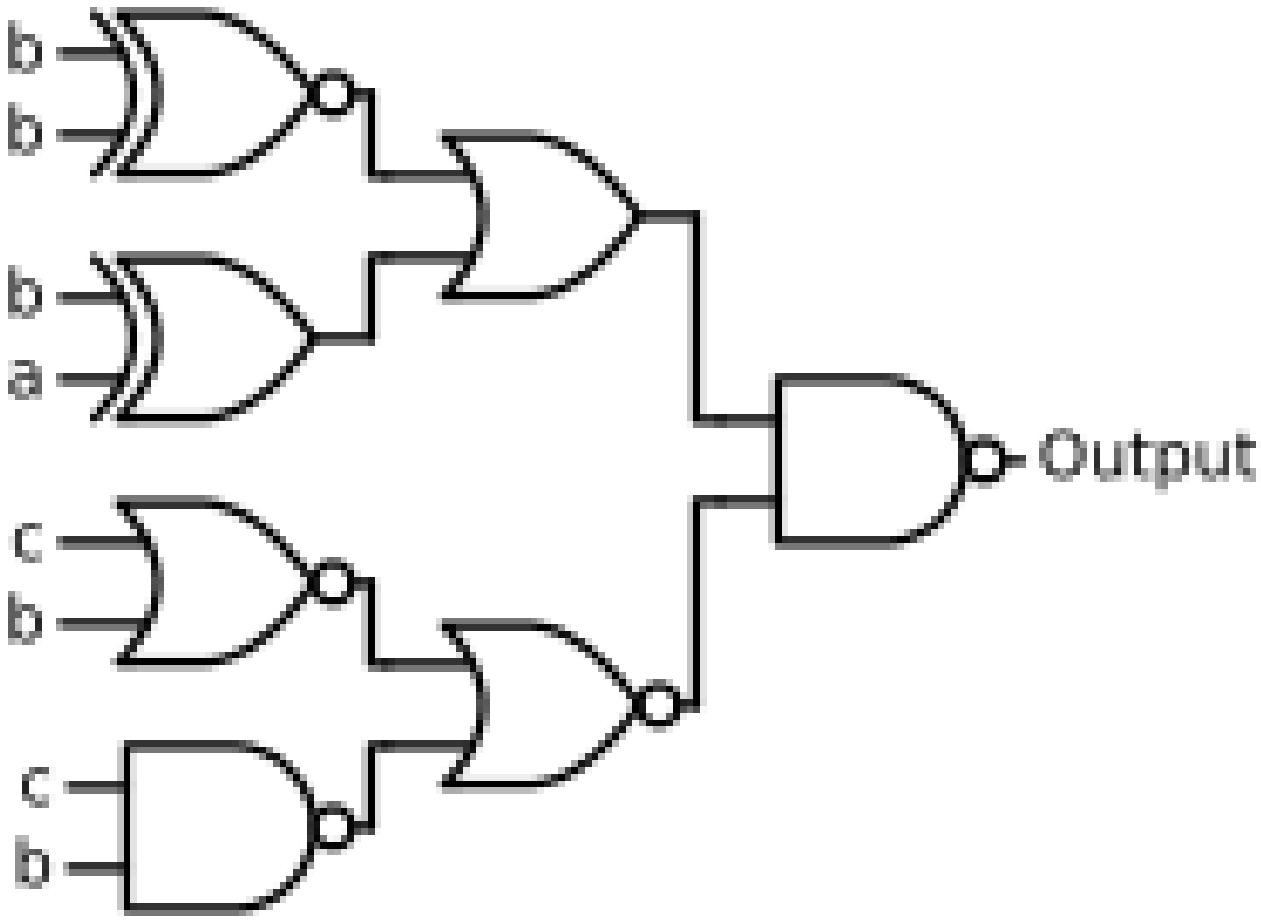
Correct Answer: yes

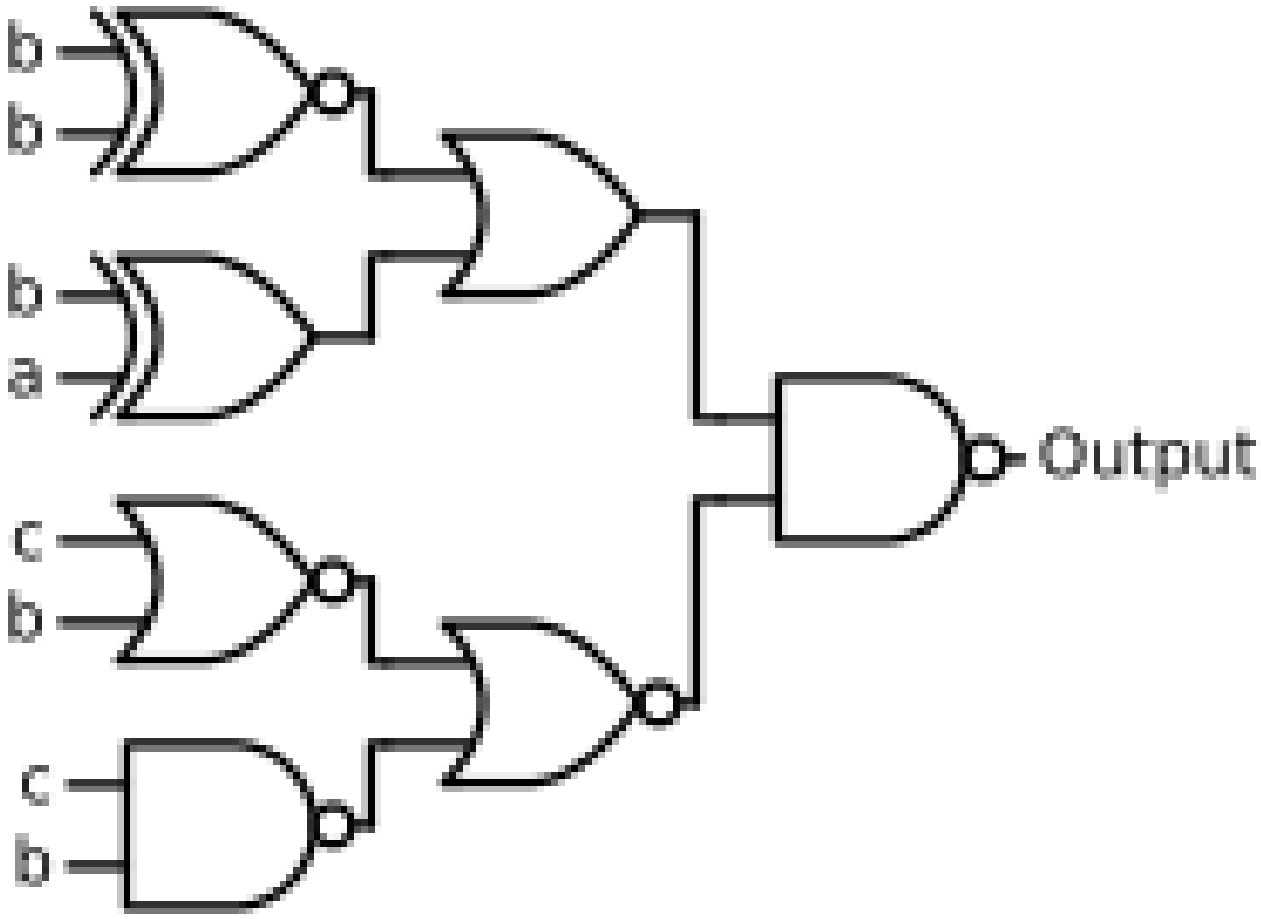
Question 8:

Are these two circuits equivalent?

Expression 1: (((b xnor b) or (b xor a)) nand ((c nor b) nor (c nand b)))

Expression 2: (((b xnor b) or (b xor a)) nand ((c nor b) nor (c nand b)))





Options:

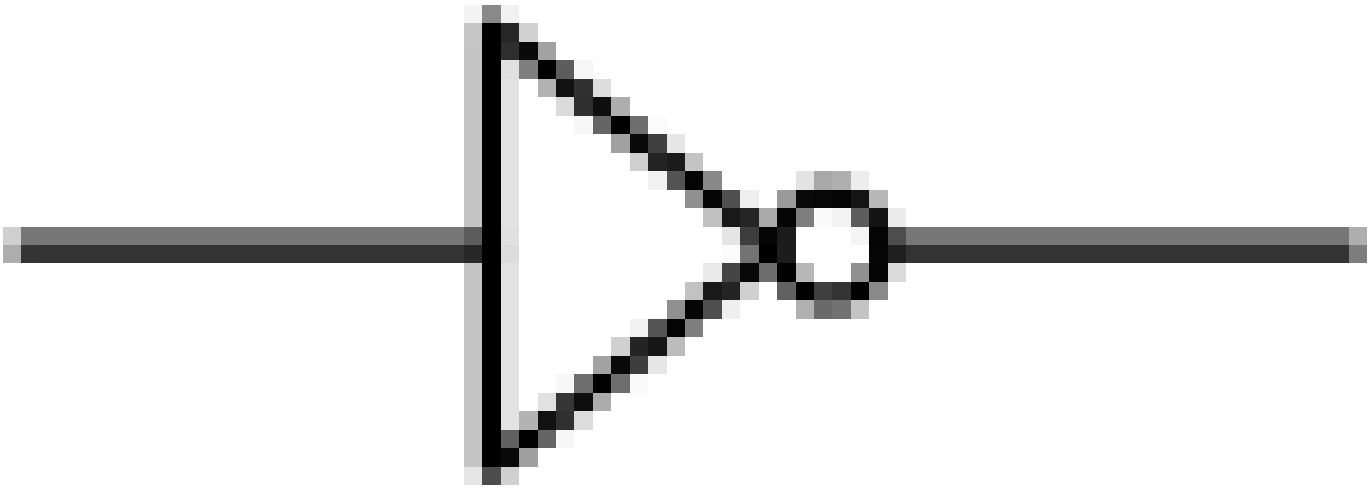
1. Yes

2. No

Correct Answer: yes

Question 9:

What is the output of the NOT gate with input 1?



Options:

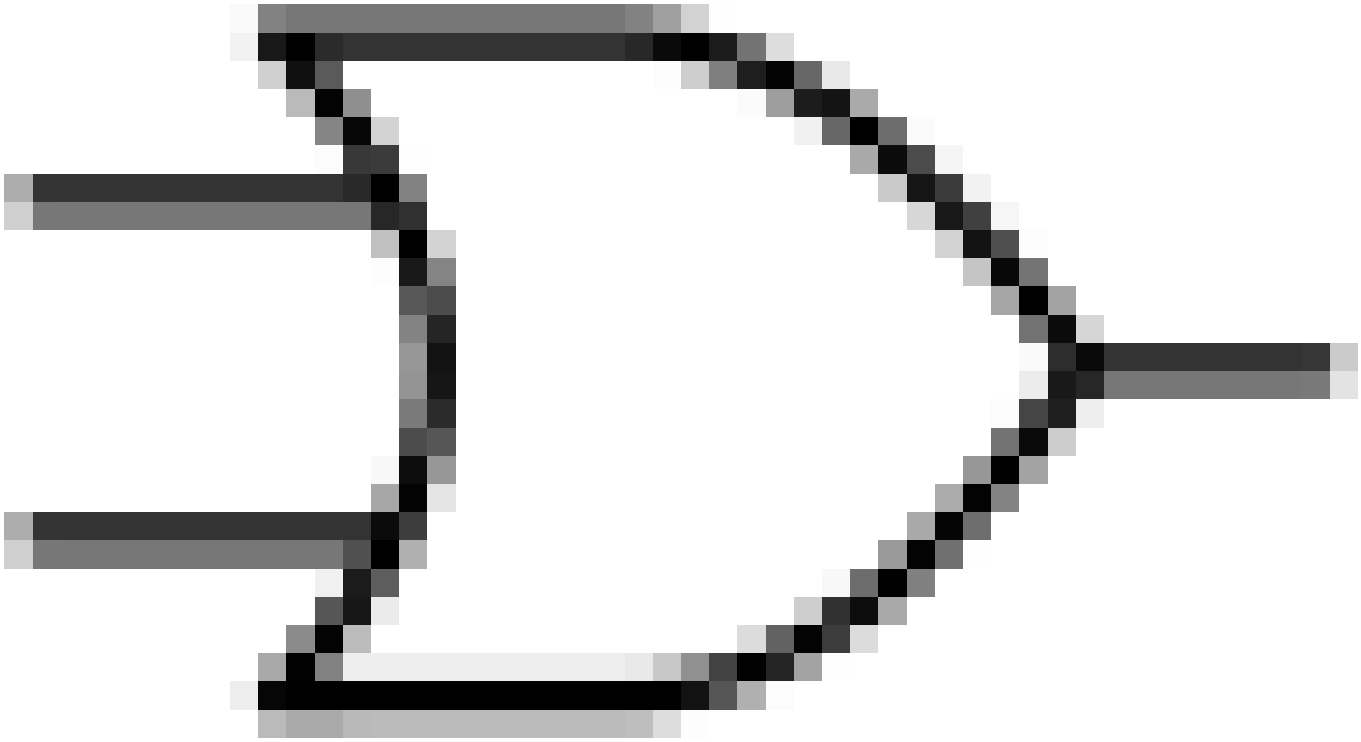
1. 1

2. 0

Correct Answer: 0

Question 10:

What is the output of the OR gate with inputs 0, 1?



Options:

1. 1

2. 0

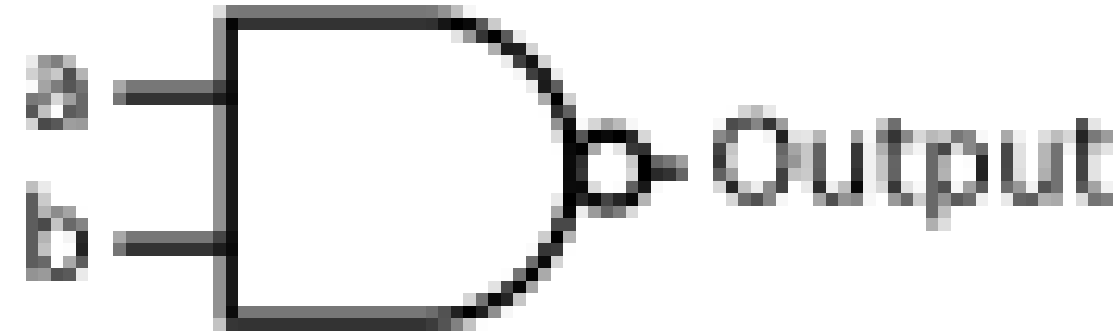
Correct Answer: 1

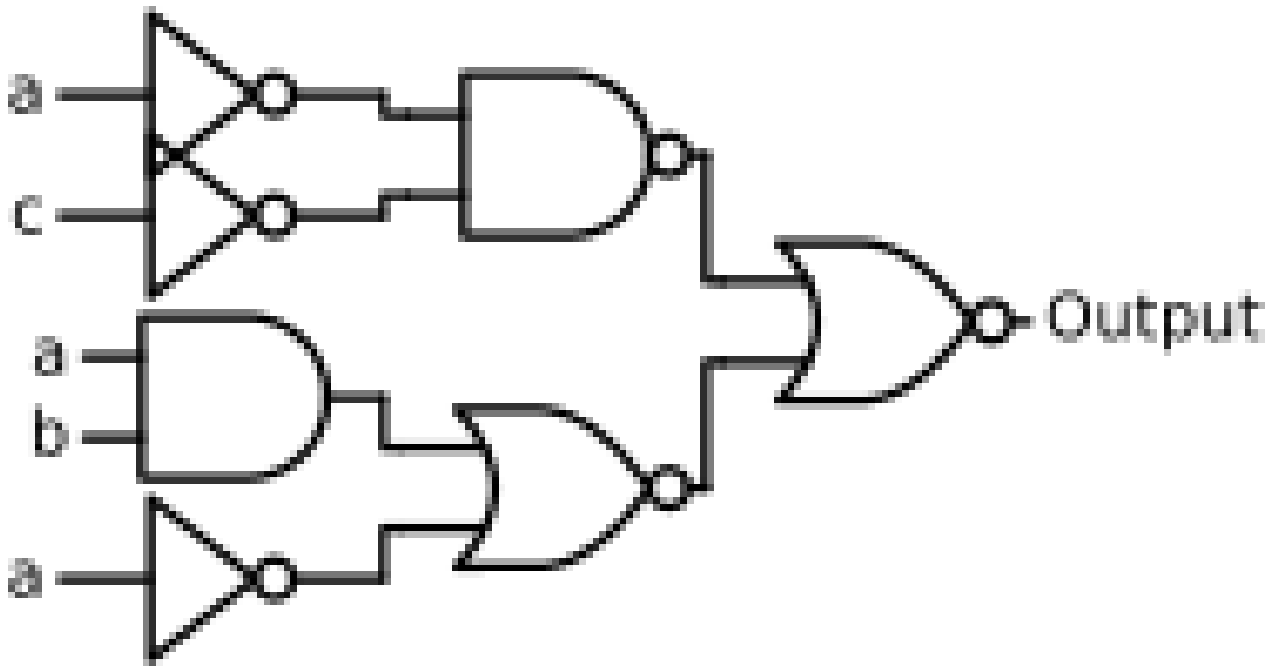
Question 11:

Are these two circuits equivalent?

Expression 1: (not (a and b))

Expression 2: (((not a) nand (not c)) nor ((a and b) nor (not a)))





Options:

1. Yes

2. No

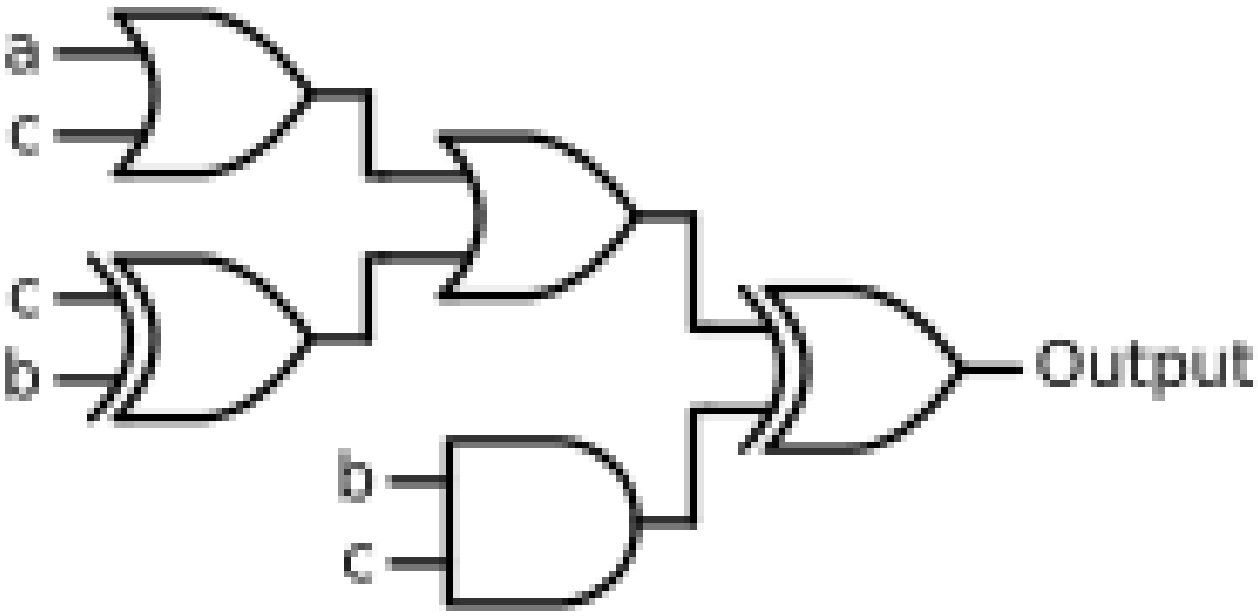
Correct Answer: no

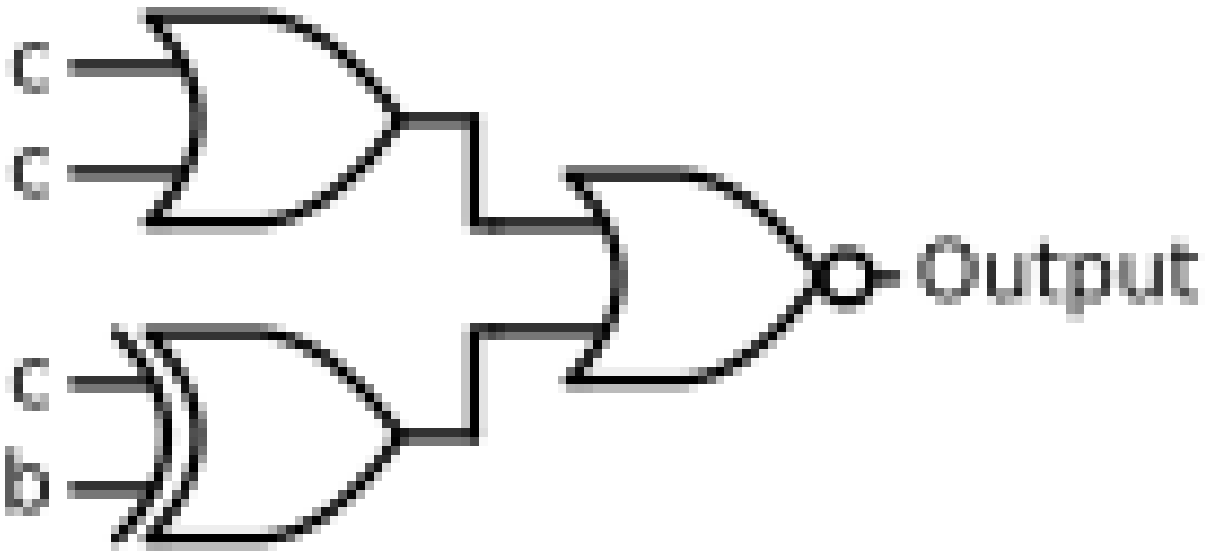
Question 12:

Are these two circuits equivalent?

Expression 1: (((a or c) or (c xor b)) xor (not (b nand c)))

Expression 2: ((c or c) nor (c xor b))





Options:

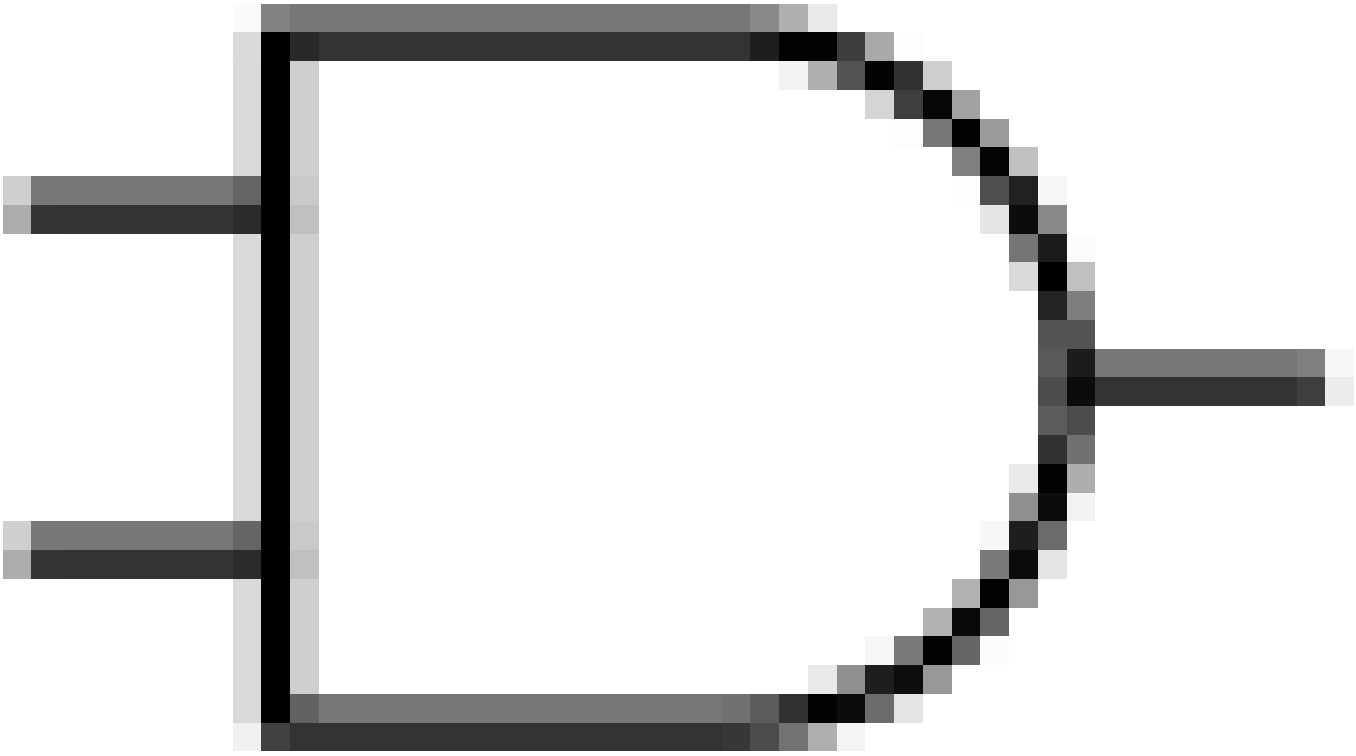
1. Yes

2. No

Correct Answer: no

Question 13:

What is the output of the AND gate with inputs 1, 1?



Options:

1. 0

2. 1

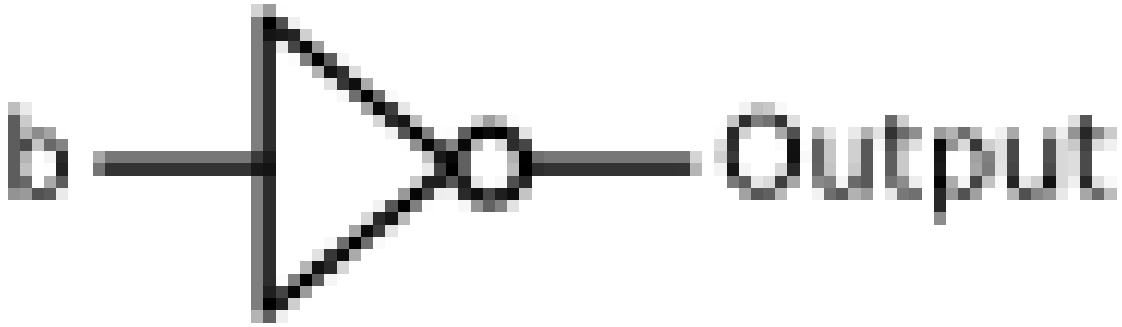
Correct Answer: 1

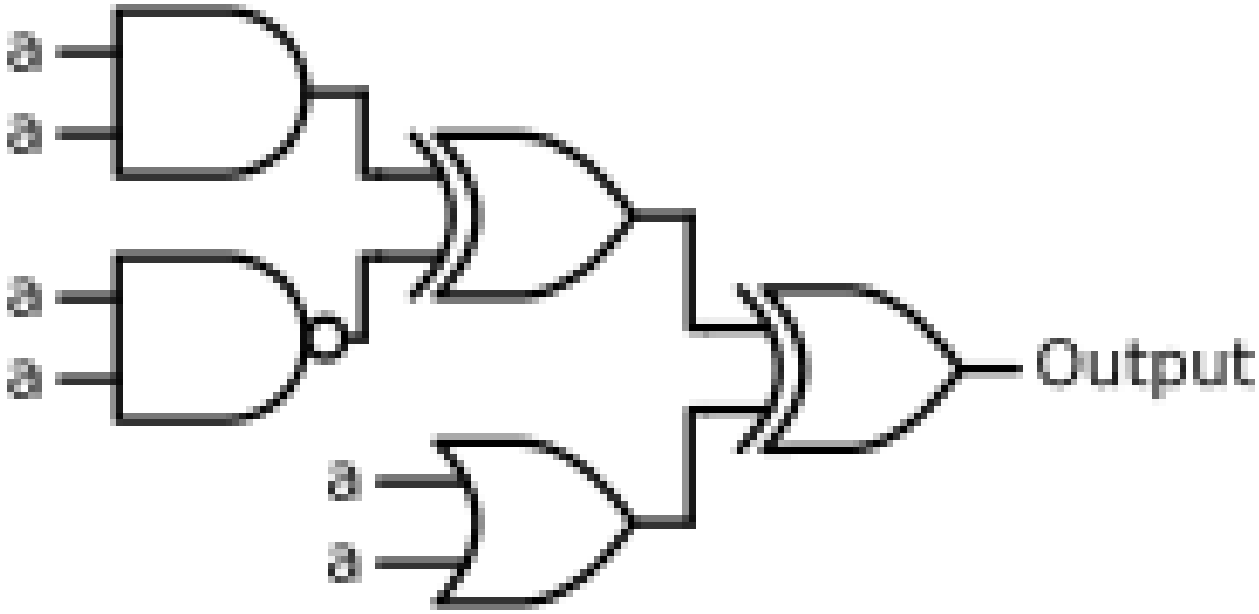
Question 14:

Are these two circuits equivalent?

Expression 1: (not b)

Expression 2: (((a and a) xor (a nand a)) xor (not (a nor a)))





Options:

1. Yes

2. No

Correct Answer: no

Question 15:

Are these two circuits equivalent?

Expression 1: ((c or b) xor (a xnor a))

Expression 2: ((c or b) xor (a xnor a))

Options:

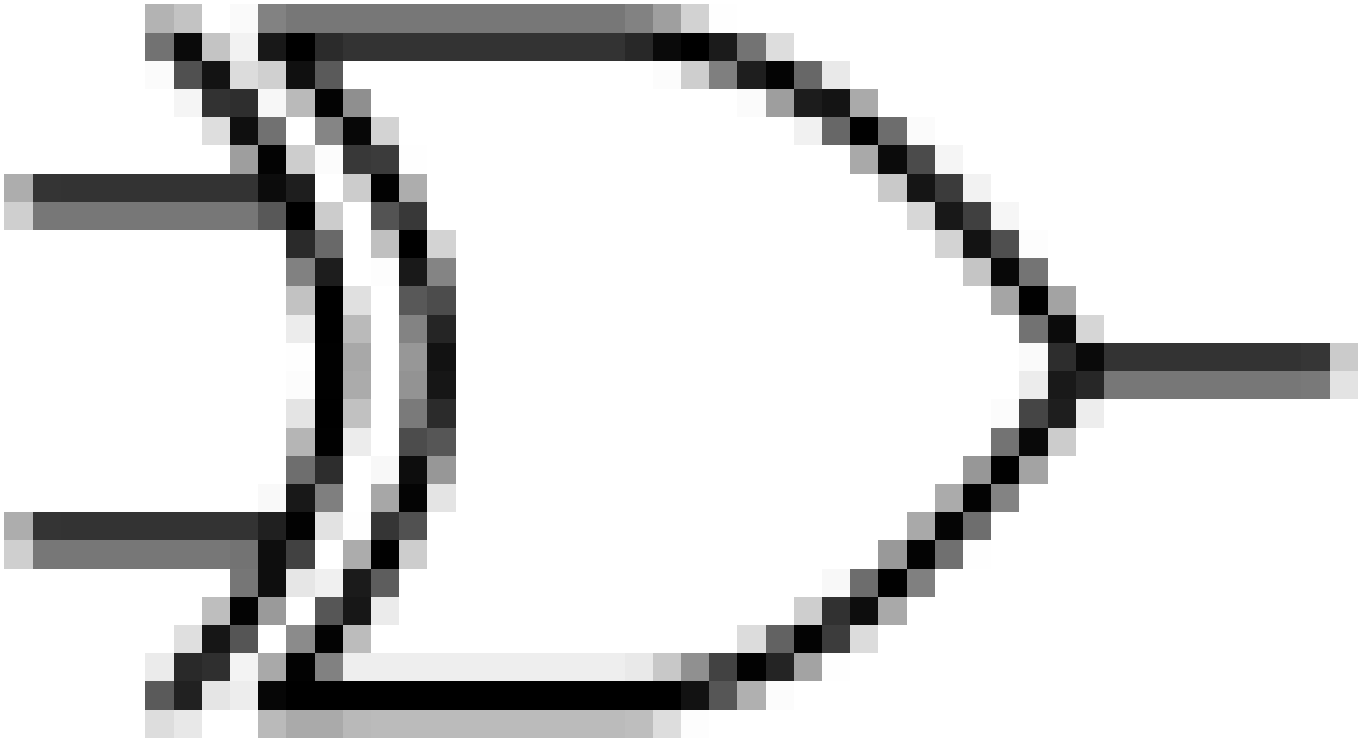
1. Yes

2. No

Correct Answer: yes

Question 16:

What is the output of the XOR gate with inputs 1, 1?



Options:

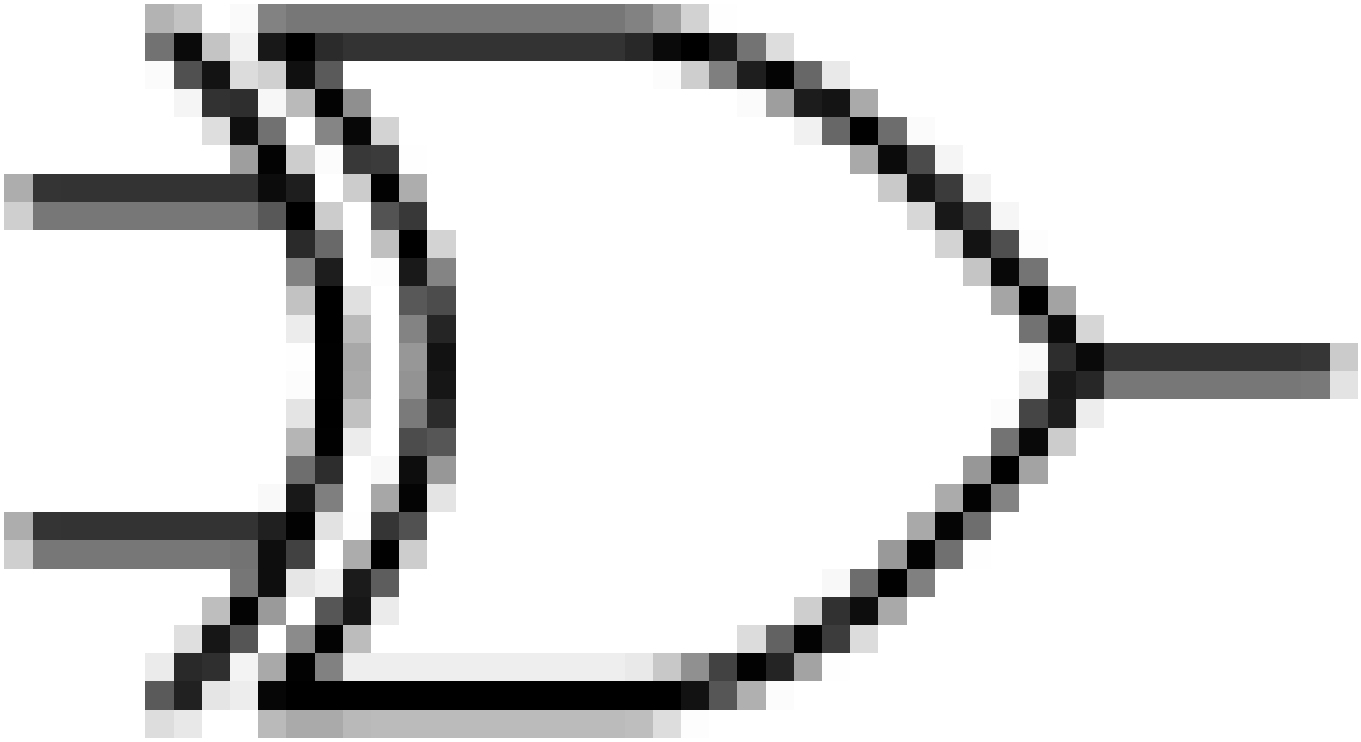
1. 0

2. 1

Correct Answer: 0

Question 17:

What is the output of the XOR gate with inputs 0, 1?



Options:

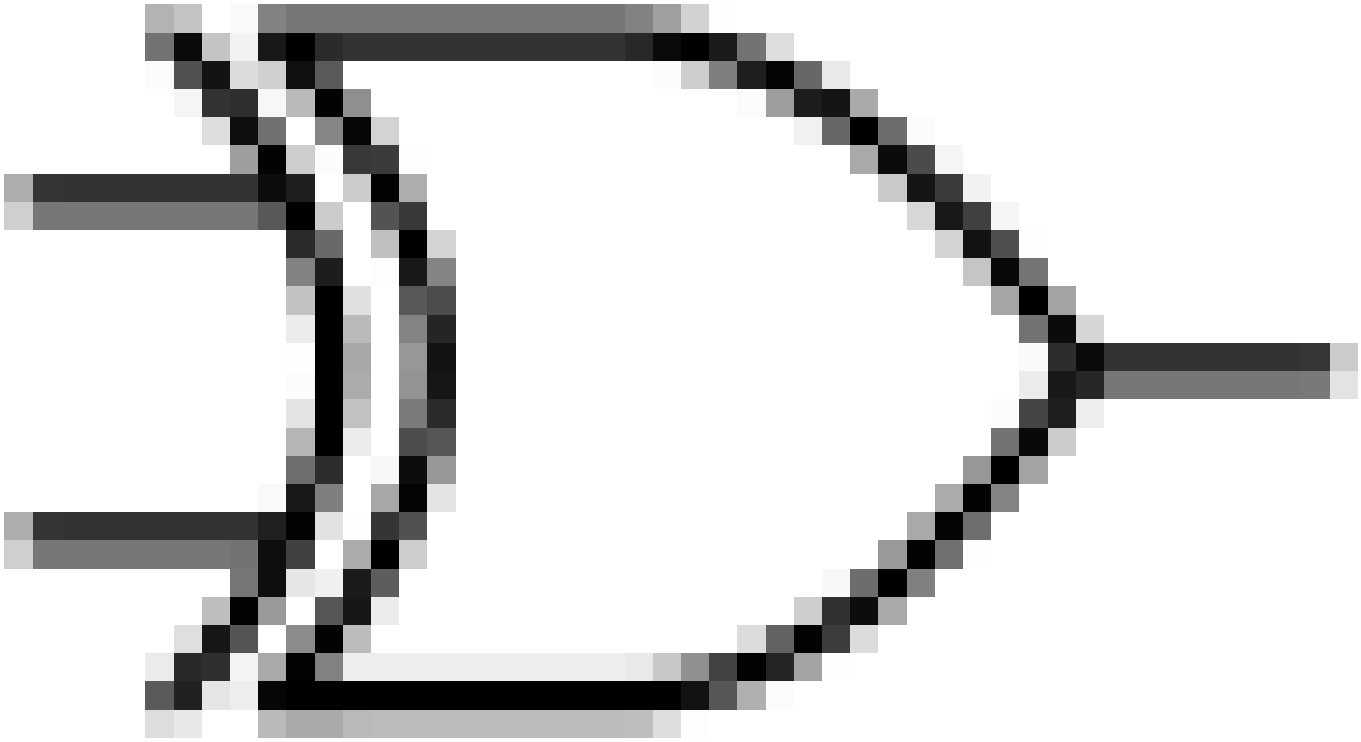
1. 1

2. 0

Correct Answer: 1

Question 18:

What is the output of the XOR gate with inputs 1, 1?



Options:

1. 0

2. 1

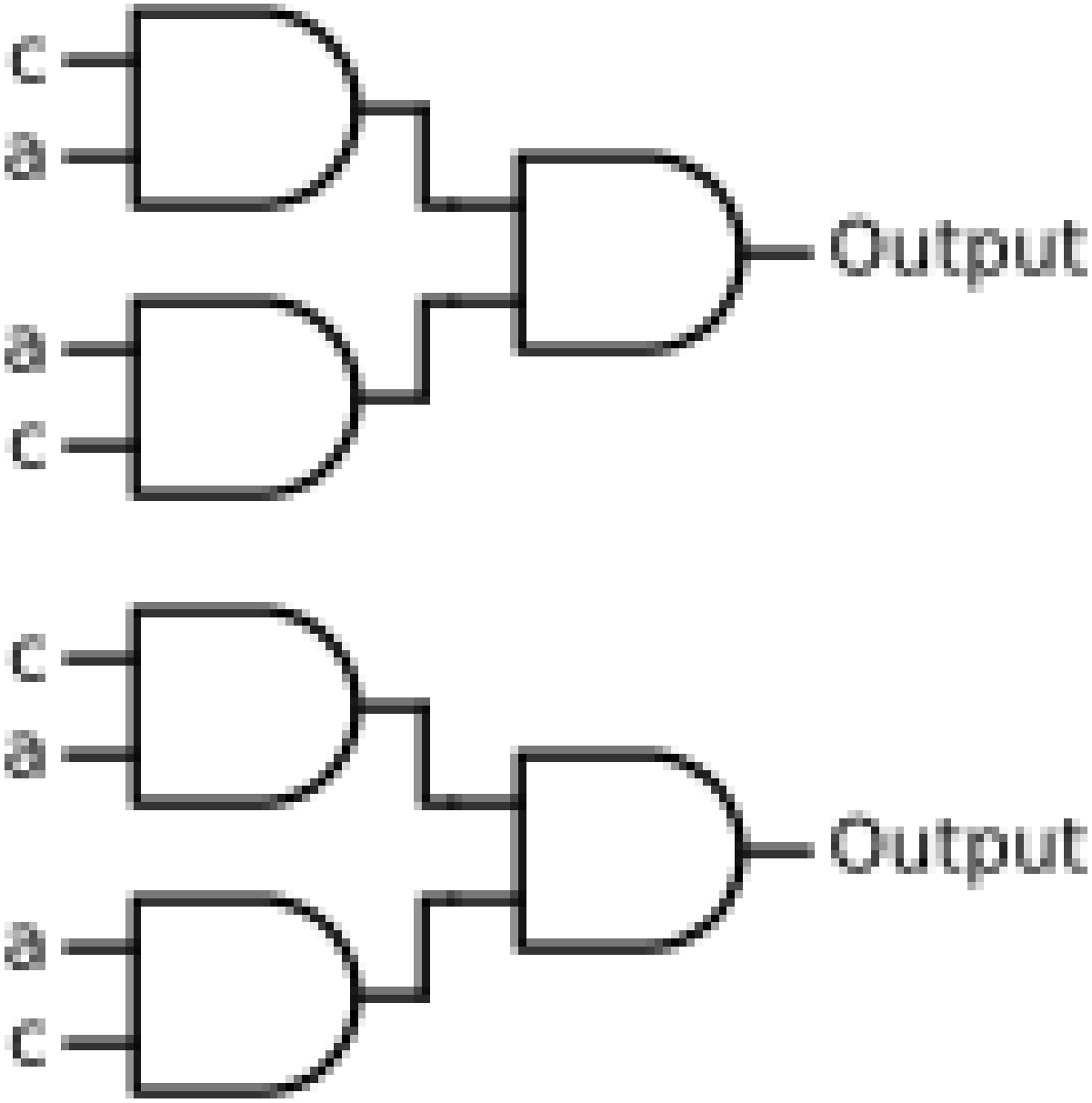
Correct Answer: 0

Question 19:

Are these two circuits equivalent?

Expression 1: ((c and a) and (a and c))

Expression 2: ((c and a) and (a and c))



Options:

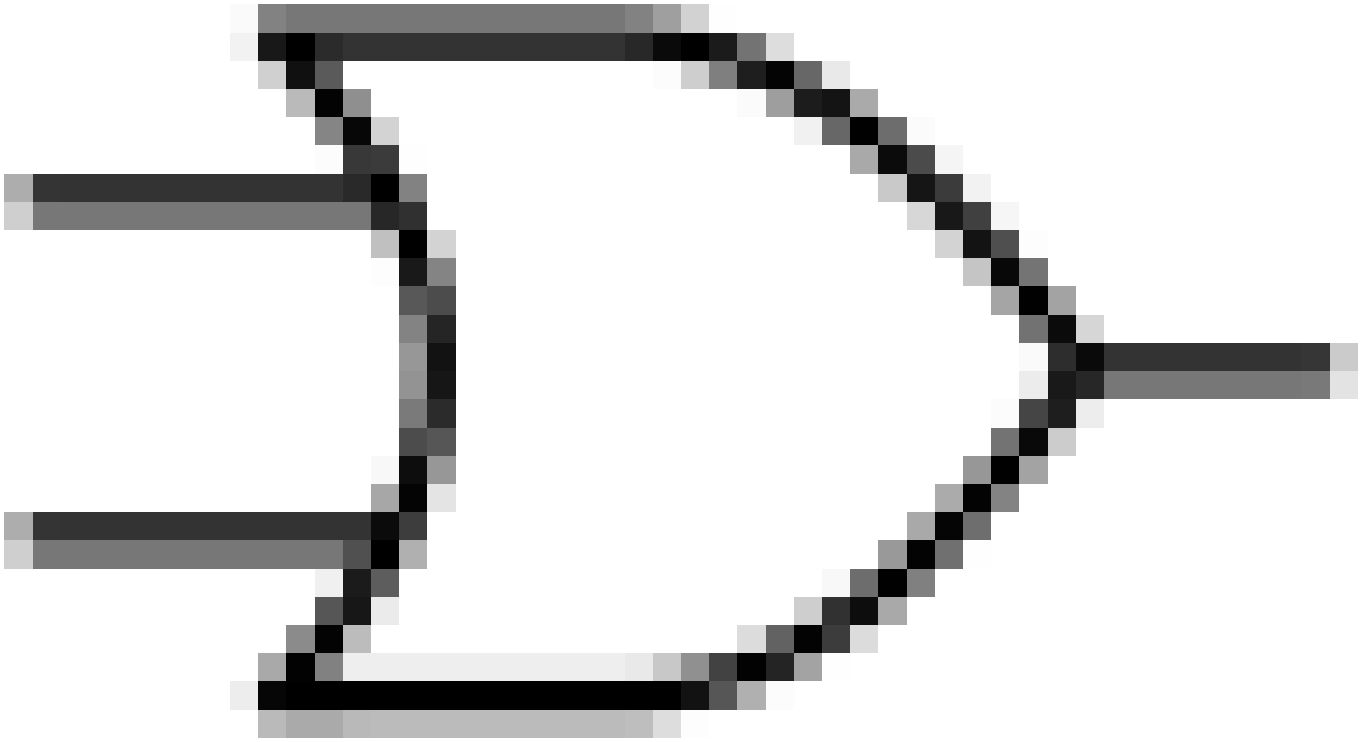
1. Yes

2. No

Correct Answer: yes

Question 20:

What is the output of the OR gate with inputs 0, 1?



Options:

1. 1

2. 0

Correct Answer: 1