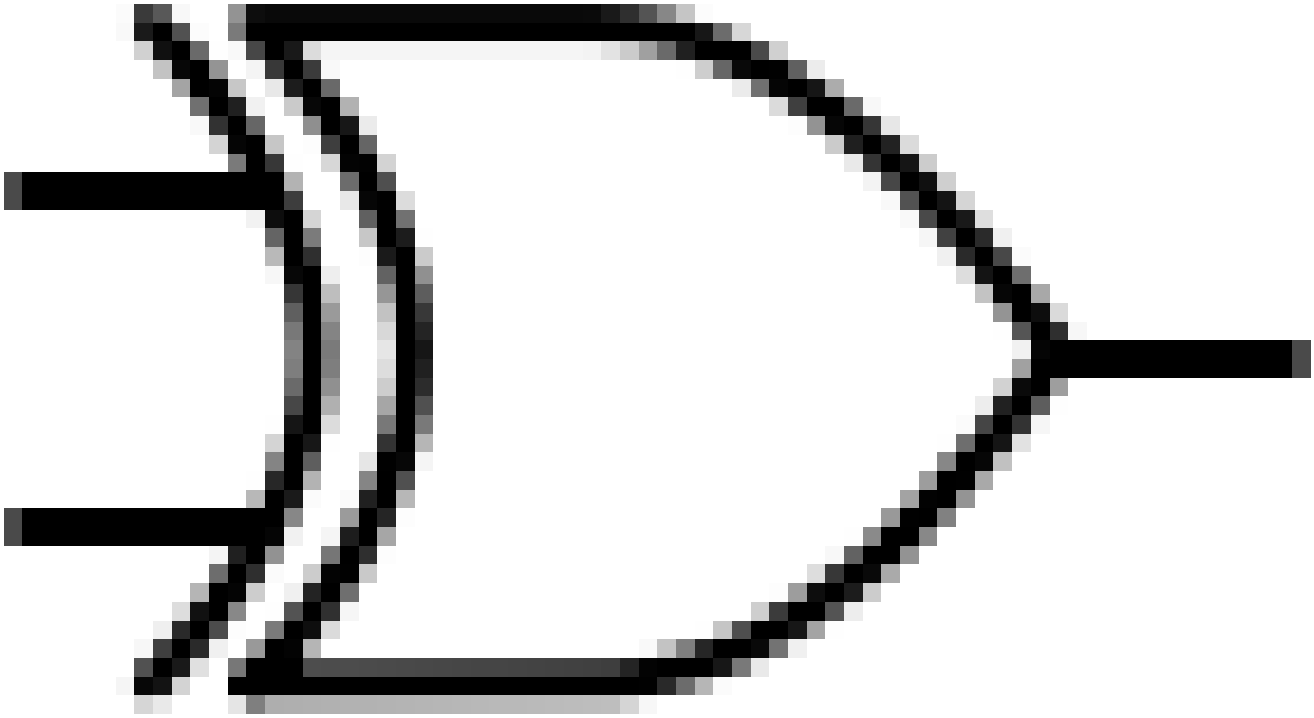
Question 1:

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



Options:

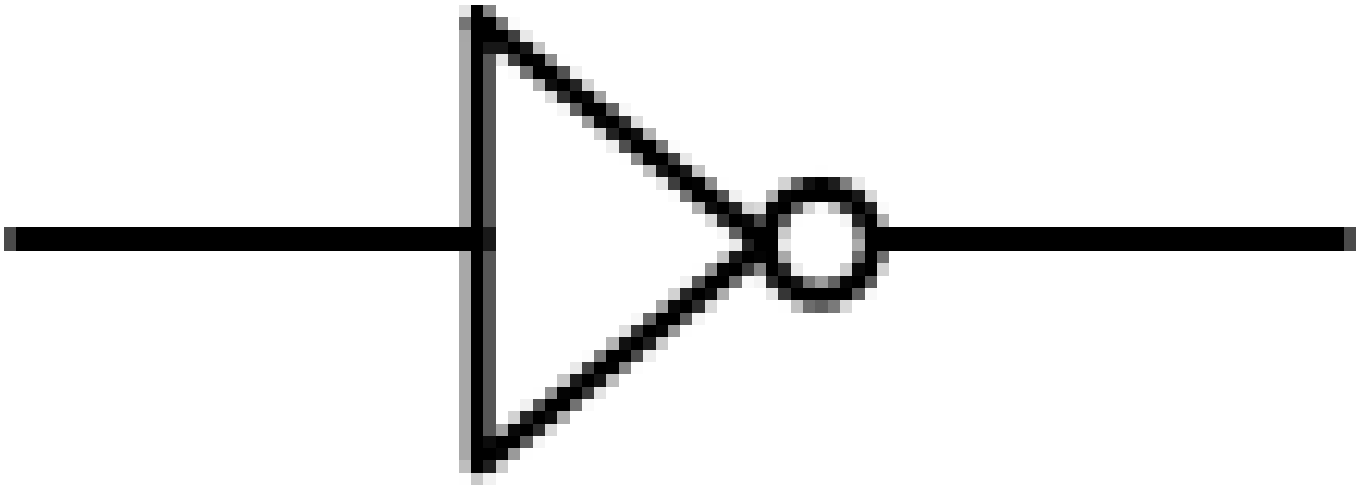
1. 0

2. 1

Correct Answer: 0

Question 2:

What is the output of the NOT gate with input 0?



Options:

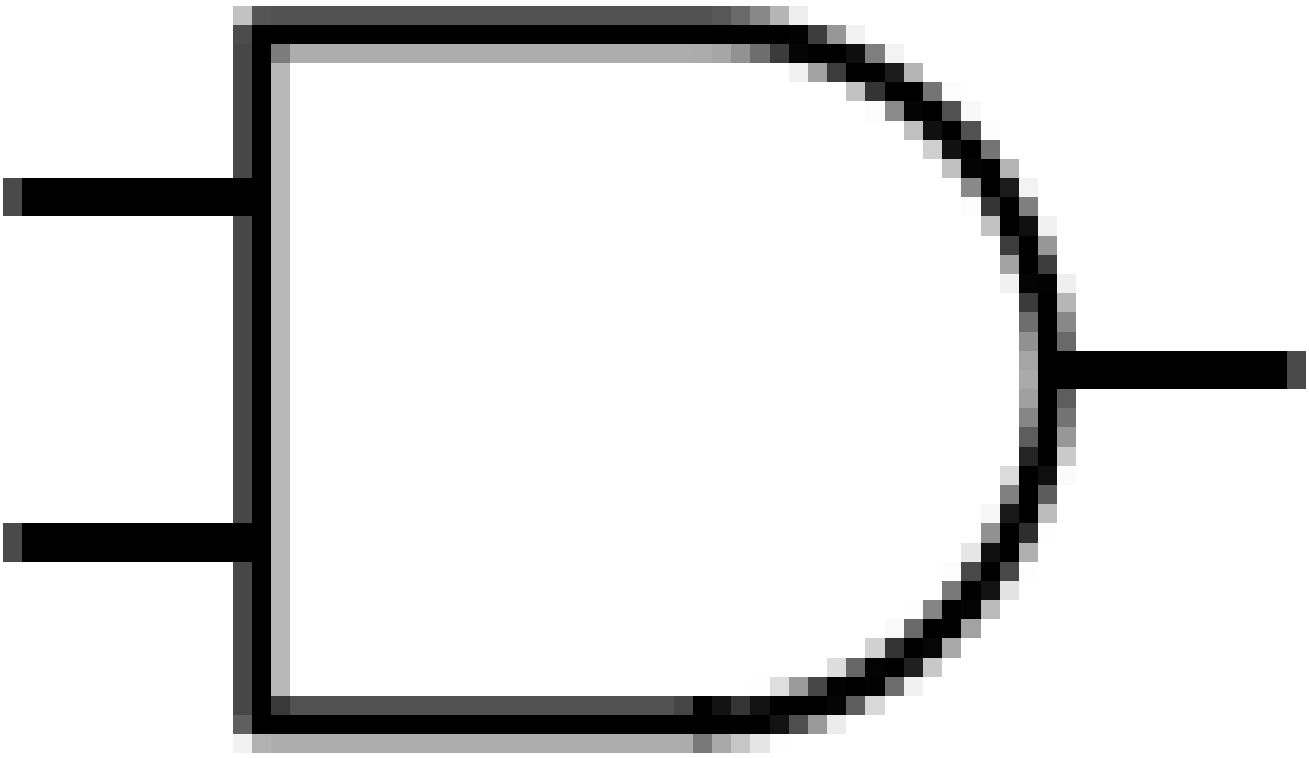
1. 0

2. 1

Correct Answer: 1

Question 3:

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



Options:

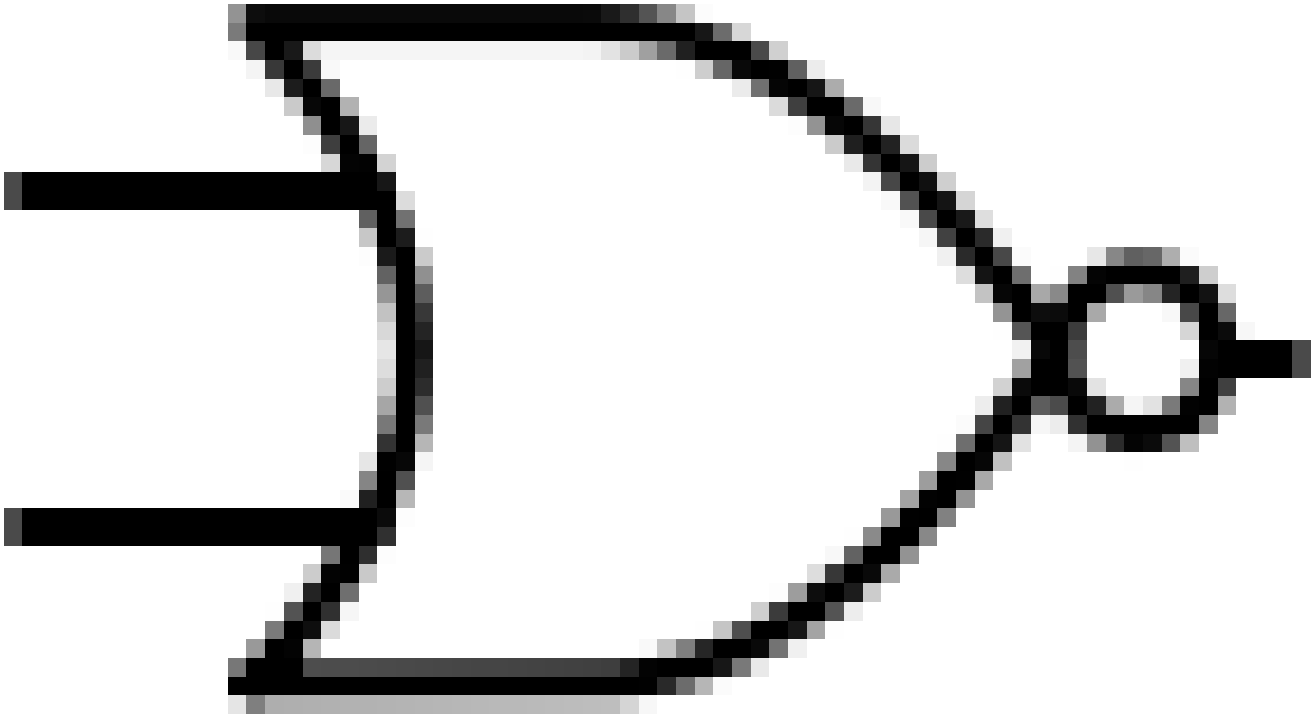
1. 0

2. 1

Correct Answer: 1

Question 4:

What is the output of the NOR gate with inputs 0, 0?



Options:

1. 1

2. 0

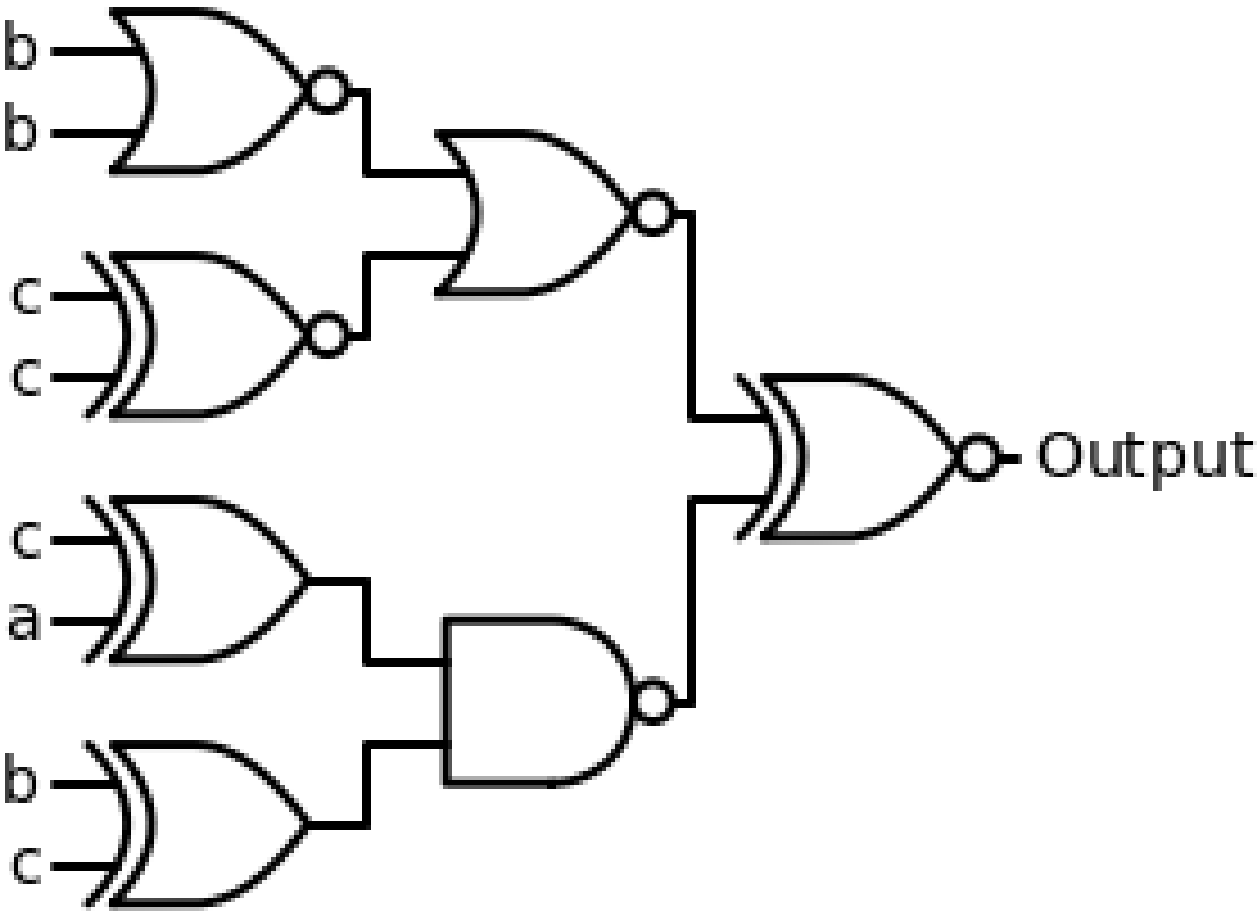
Correct Answer: 1

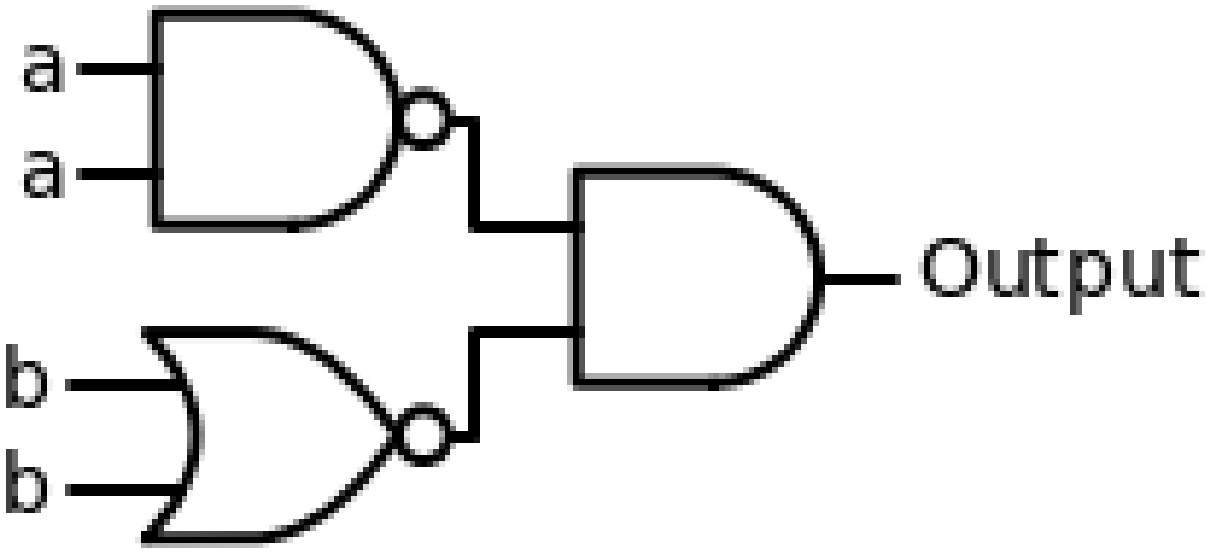
Question 5:

Are these two circuits equivalent?

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

Expression 2: ((not (a and a)) and (not (b or b)))





Options:

1. Yes

2. No

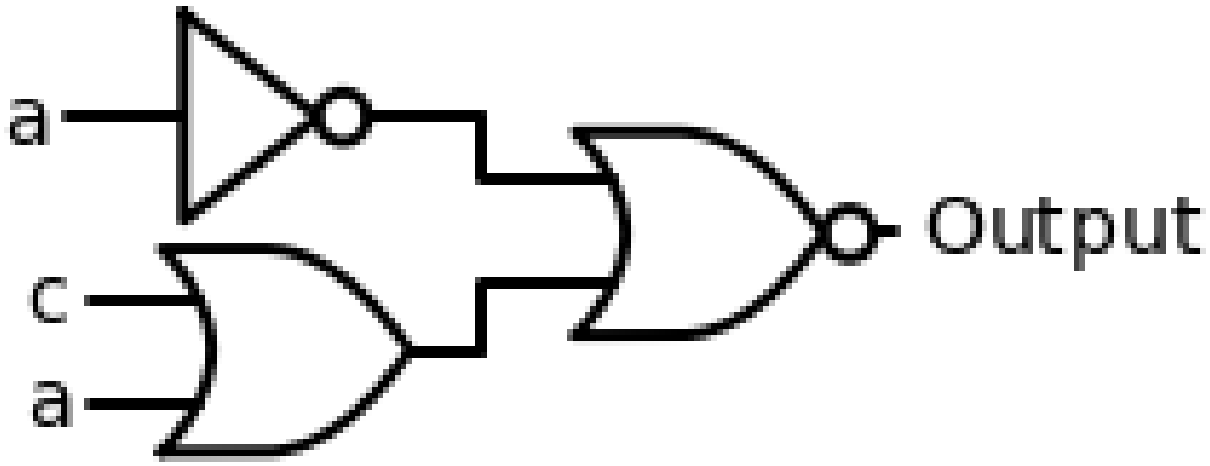
Correct Answer: no

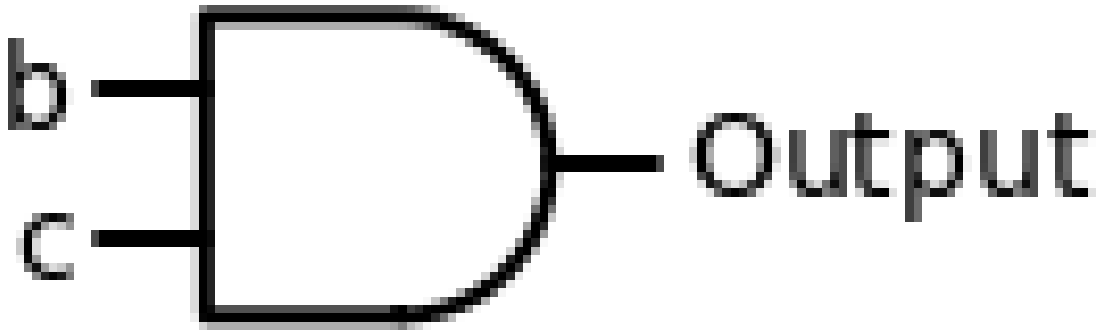
Question 6:

Are these two circuits equivalent?

Expression 1: ((not a) nor (c or a))

Expression 2: (not (b nand c))





Options:

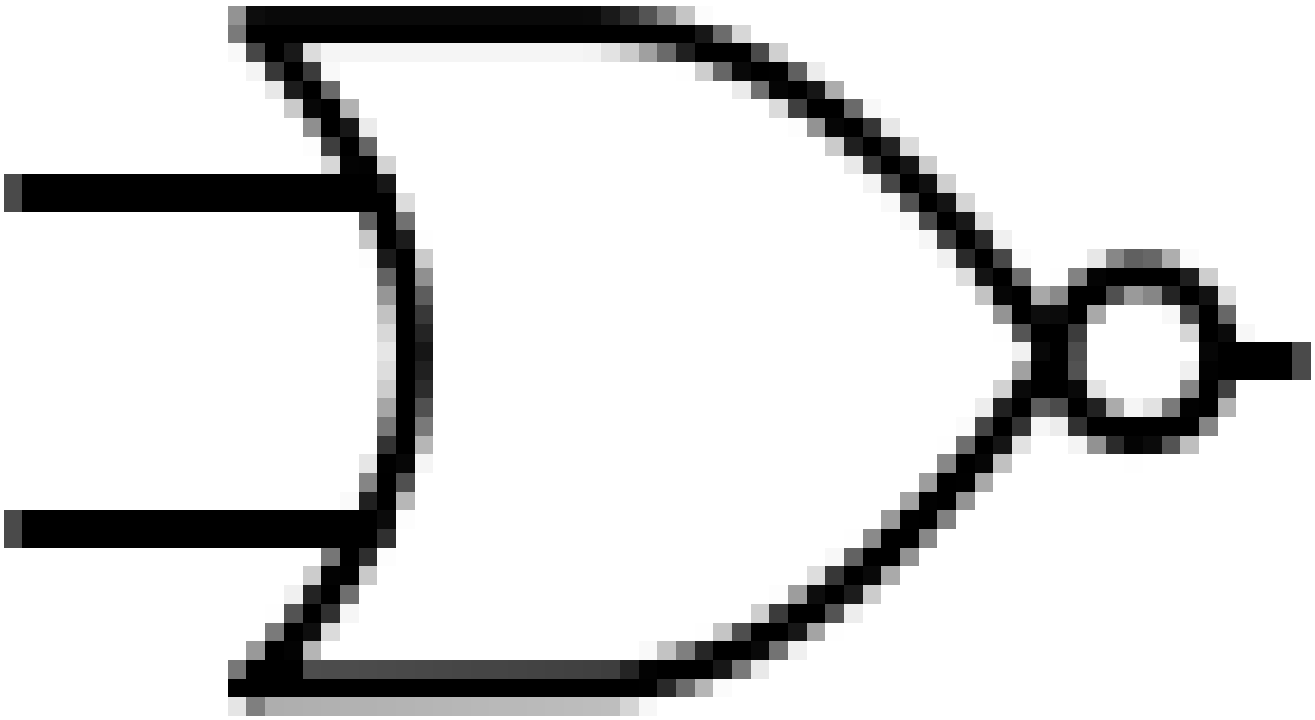
1. Yes

2. No

Correct Answer: no

Question 7:

What is the output of the NOR gate with inputs 1, 0?



Options:

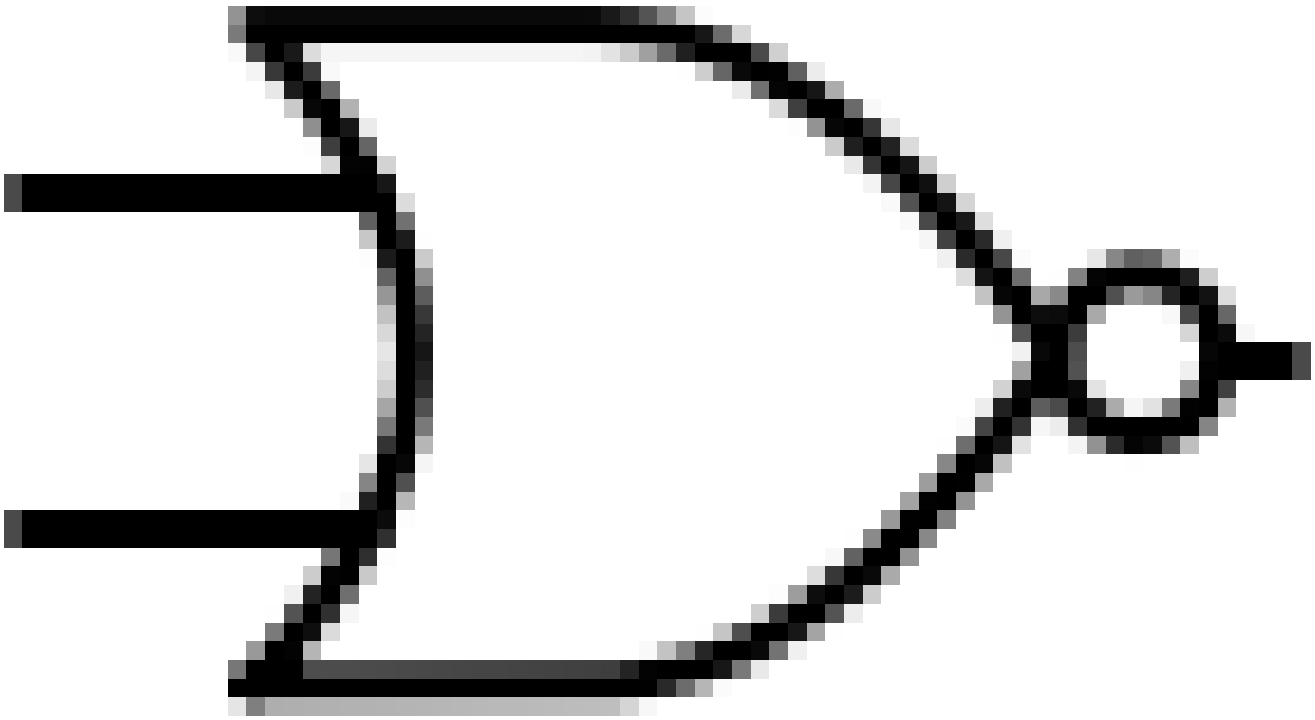
1. 1

2. 0

Correct Answer: 0

Question 8:

What is the output of the NOR gate with inputs 1, 0?



Options:

1. 0

2. 1

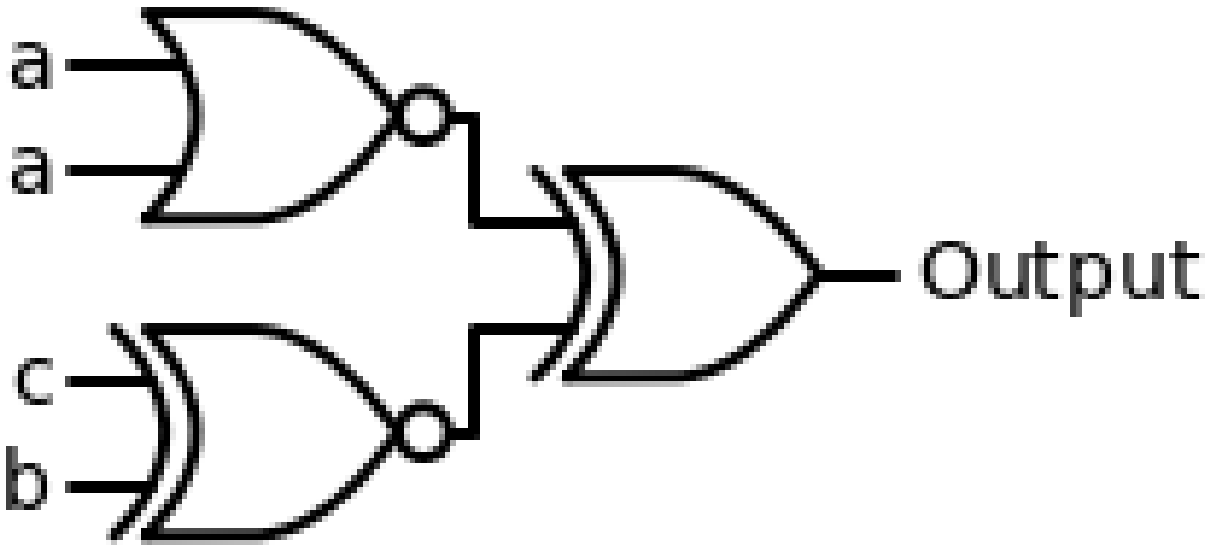
Correct Answer: 0

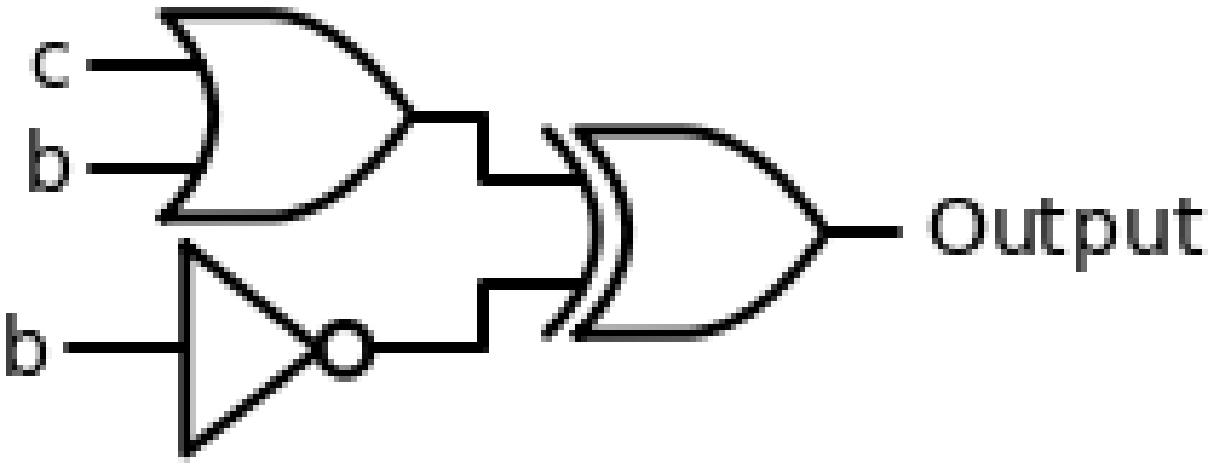
Question 9:

Are these two circuits equivalent?

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

Expression 2: ((c or b) xor (not b))





Options:

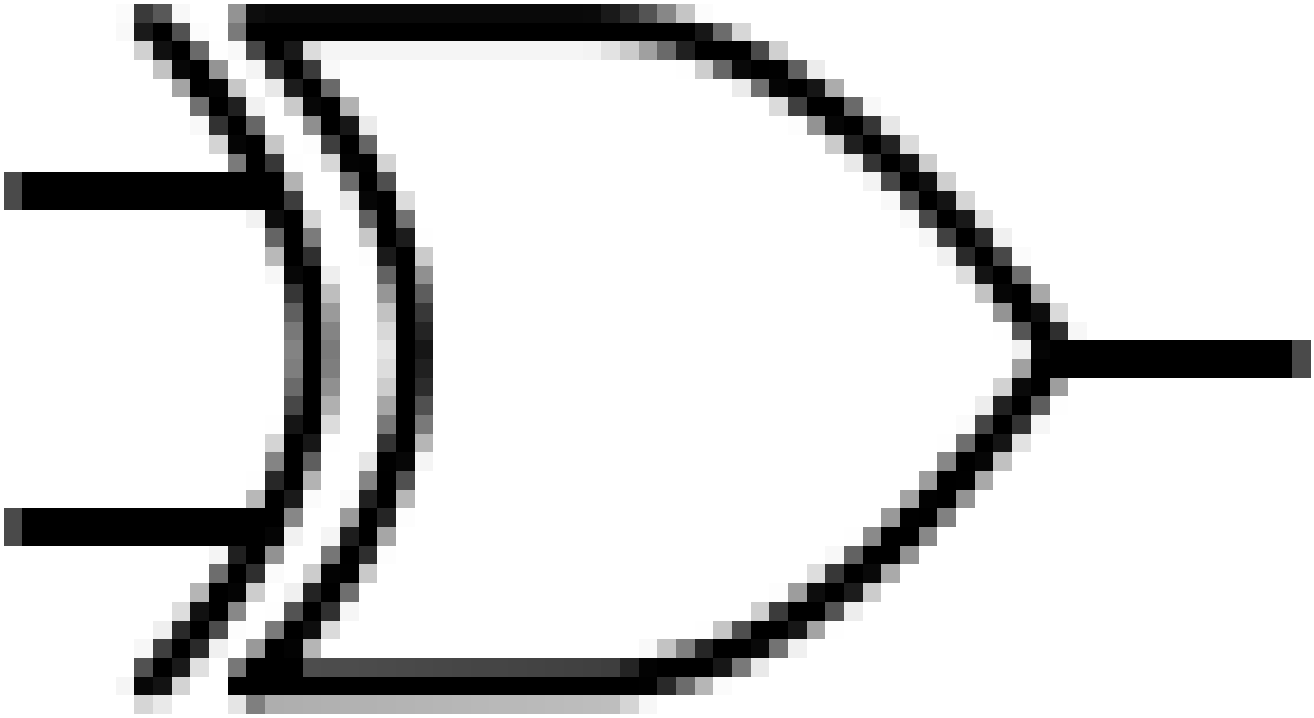
1. Yes

2. No

Correct Answer: no

Question 10:

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



Options:

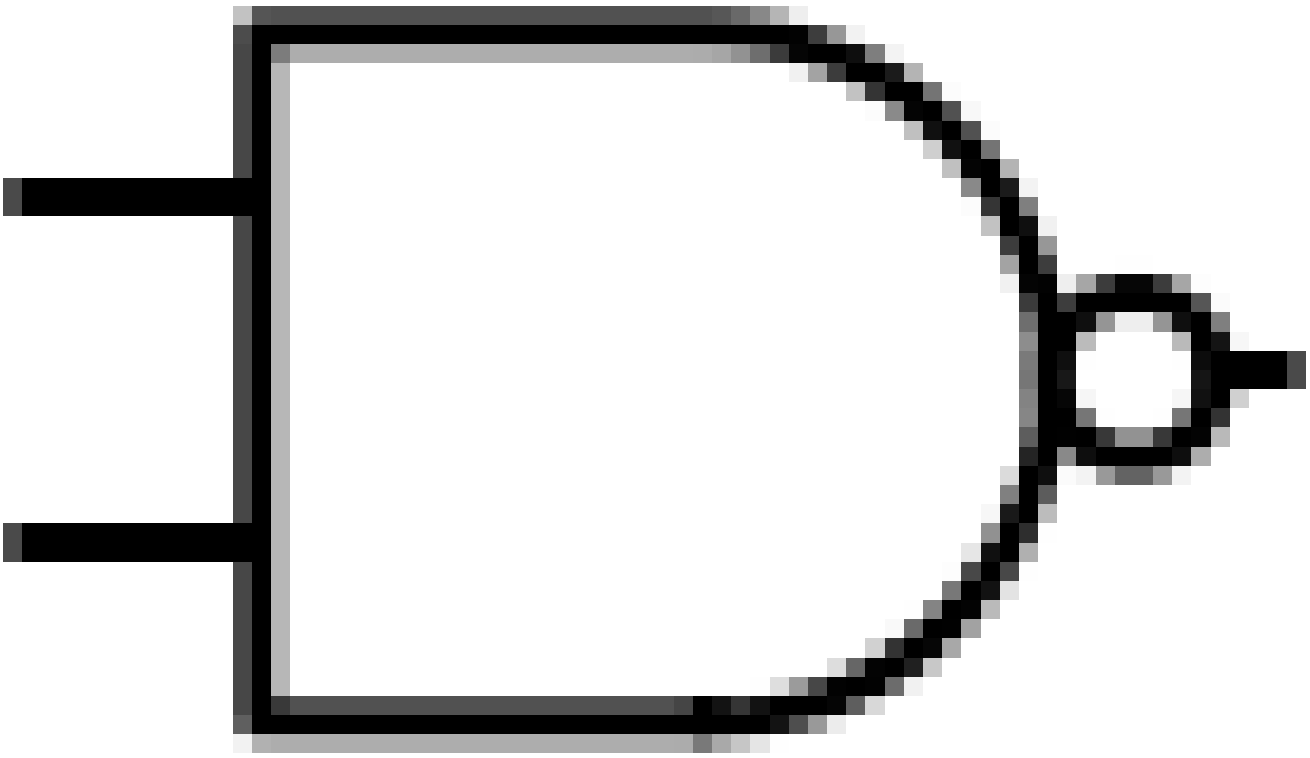
1. 1

2. 0

Correct Answer: 0

Question 11:

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



Options:

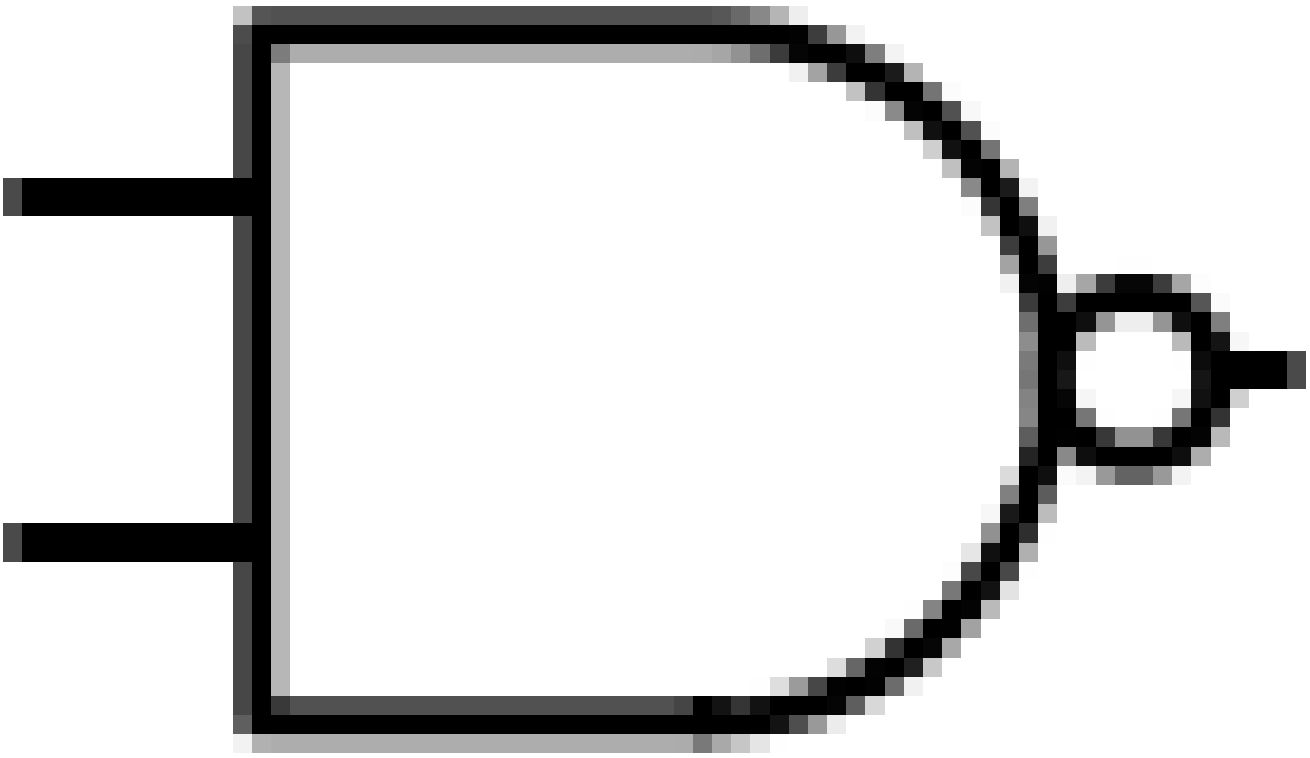
1. 1

2. 0

Correct Answer: 1

Question 12:

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



Options:

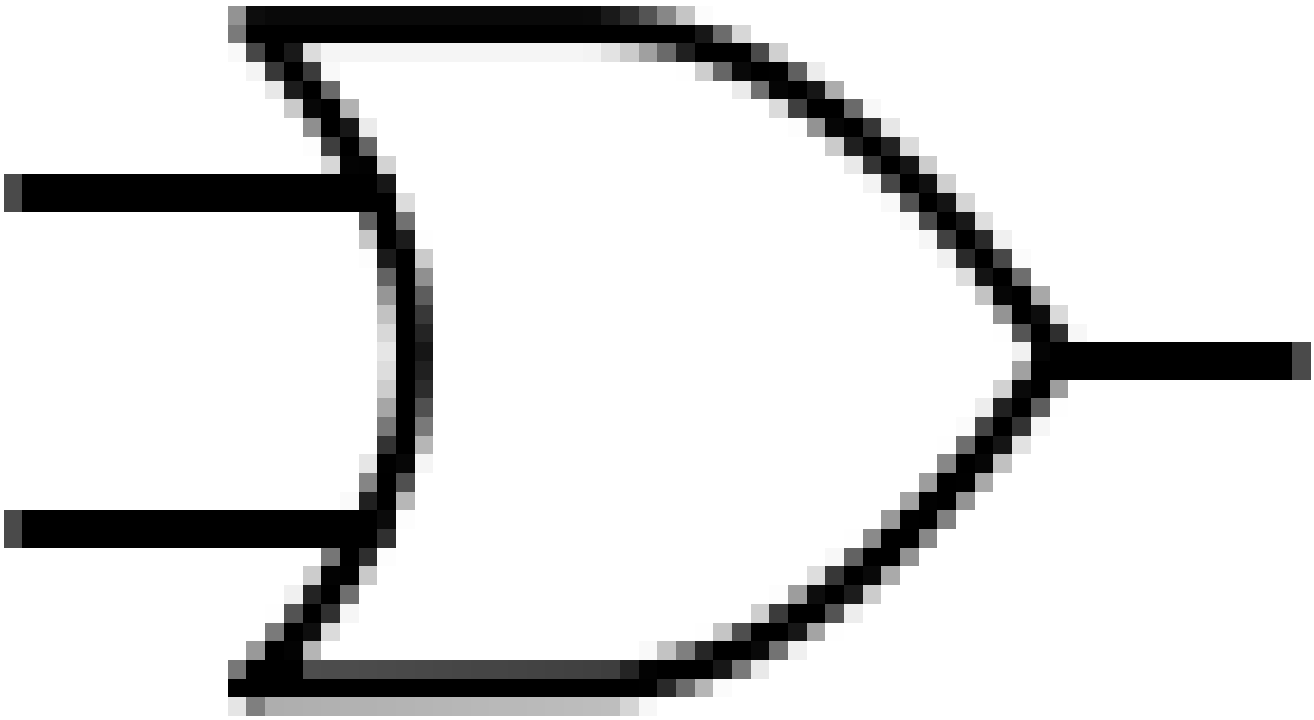
1. 0

2. 1

Correct Answer: 1

Question 13:

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



Options:

1. 1

2. 0

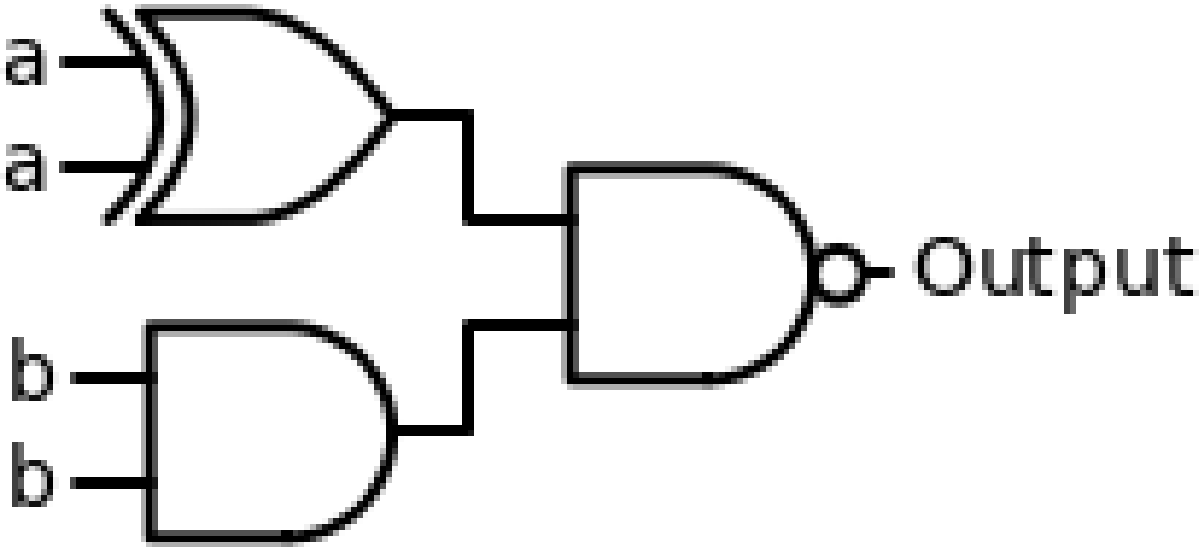
Correct Answer: 1

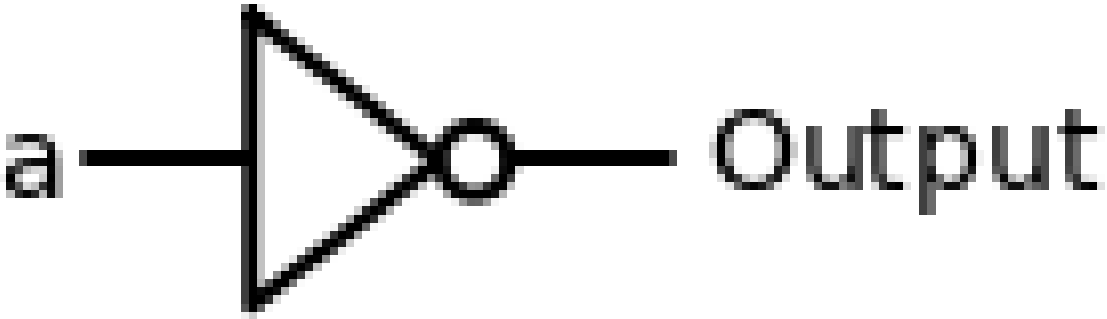
Question 14:

Are these two circuits equivalent?

Expression 1: ((a xor a) nand (b and b))

Expression 2: (not a)





Options:

1. Yes

2. No

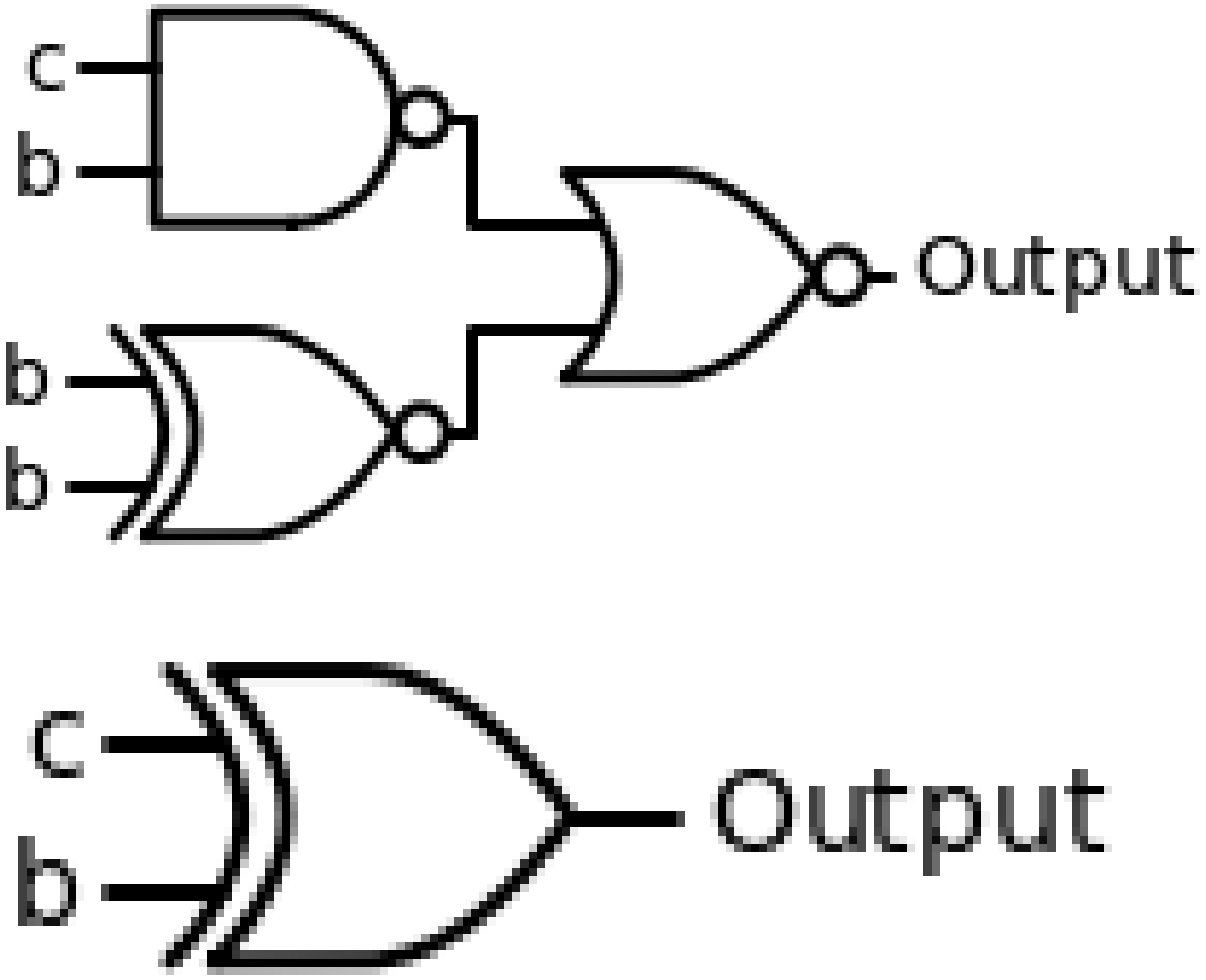
Correct Answer: no

Question 15:

Are these two circuits equivalent?

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

Expression 2: (c xor b)



Options:

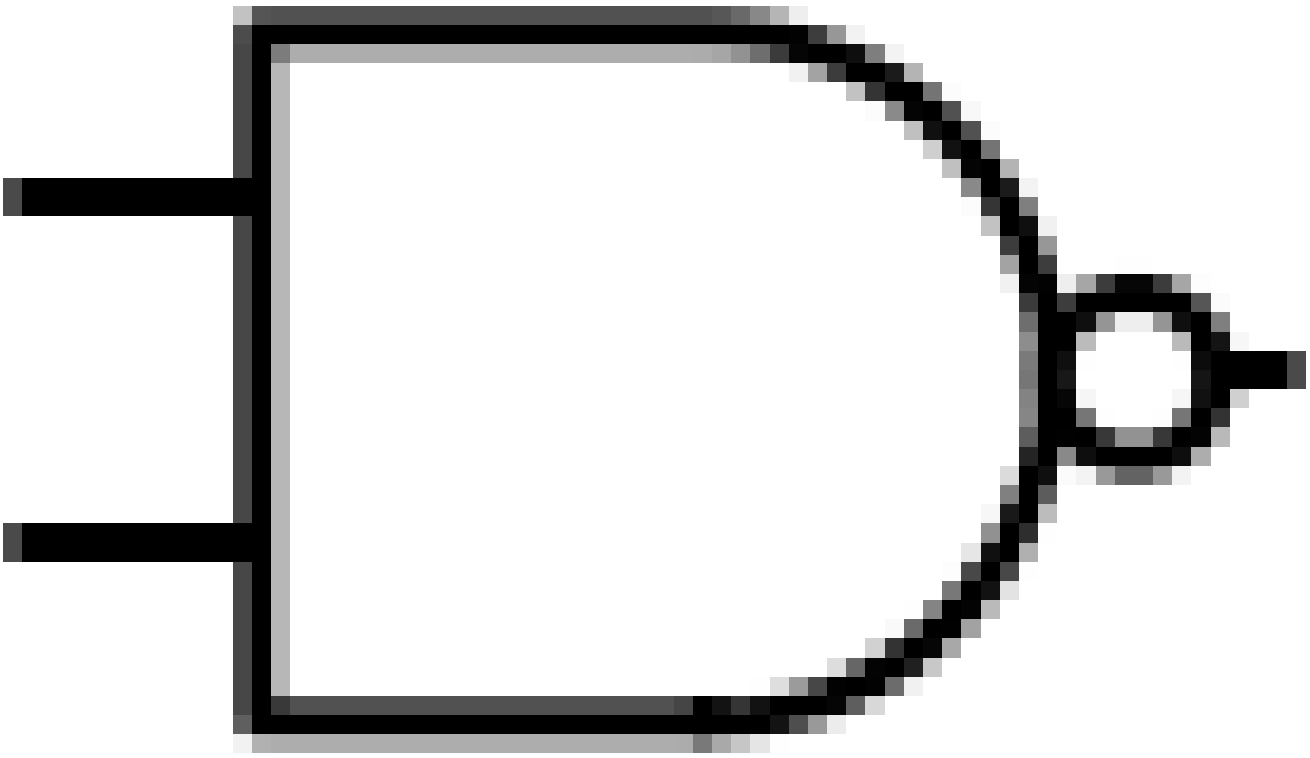
1. Yes

2. No

Correct Answer: no

Question 16:

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



Options:

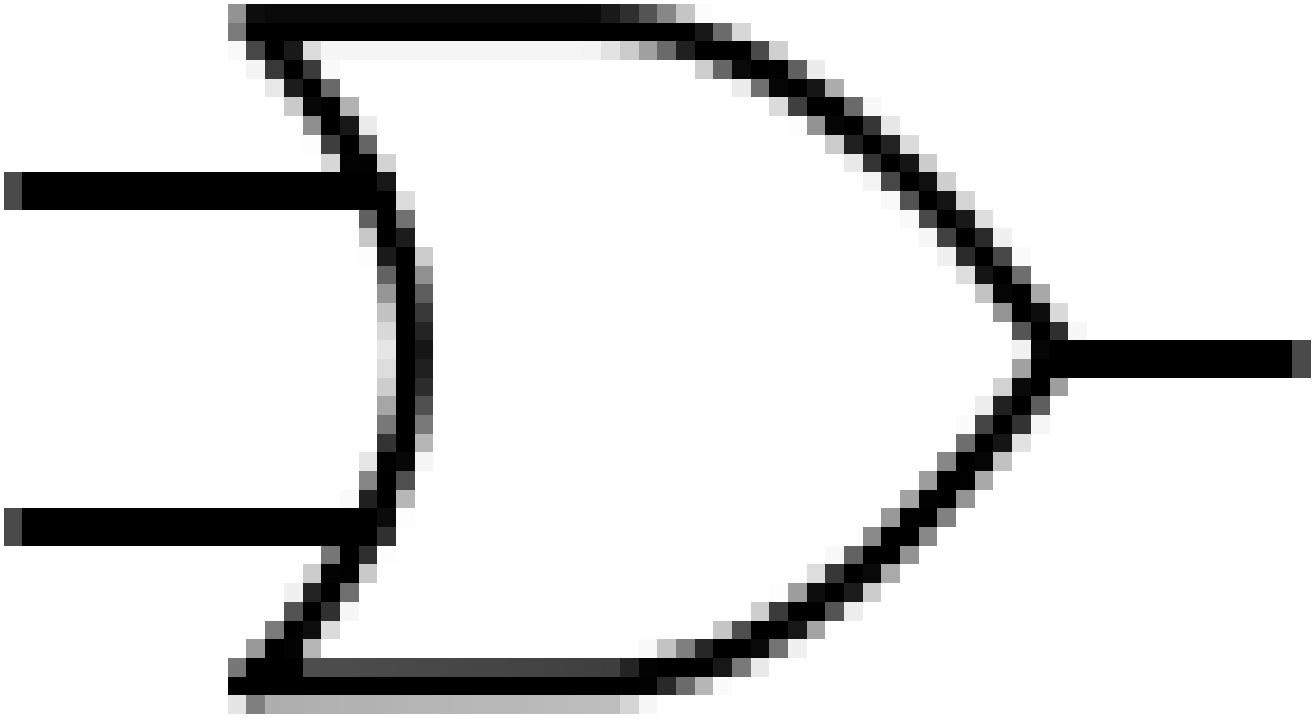
1. 1

2. 0

Correct Answer: 1

Question 17:

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



Options:

1. 1

2. 0

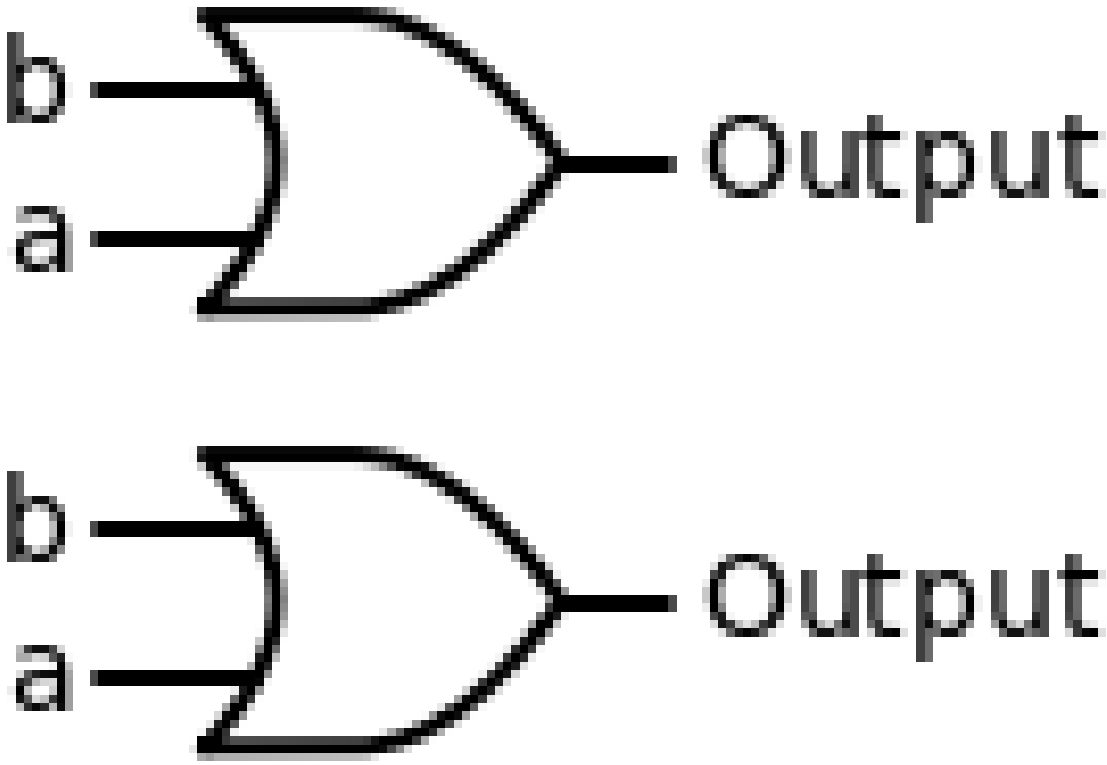
Correct Answer: 1

Question 18:

Are these two circuits equivalent?

Expression 1: (b or a)

Expression 2: (b or a)



Options:

1. Yes

2. No

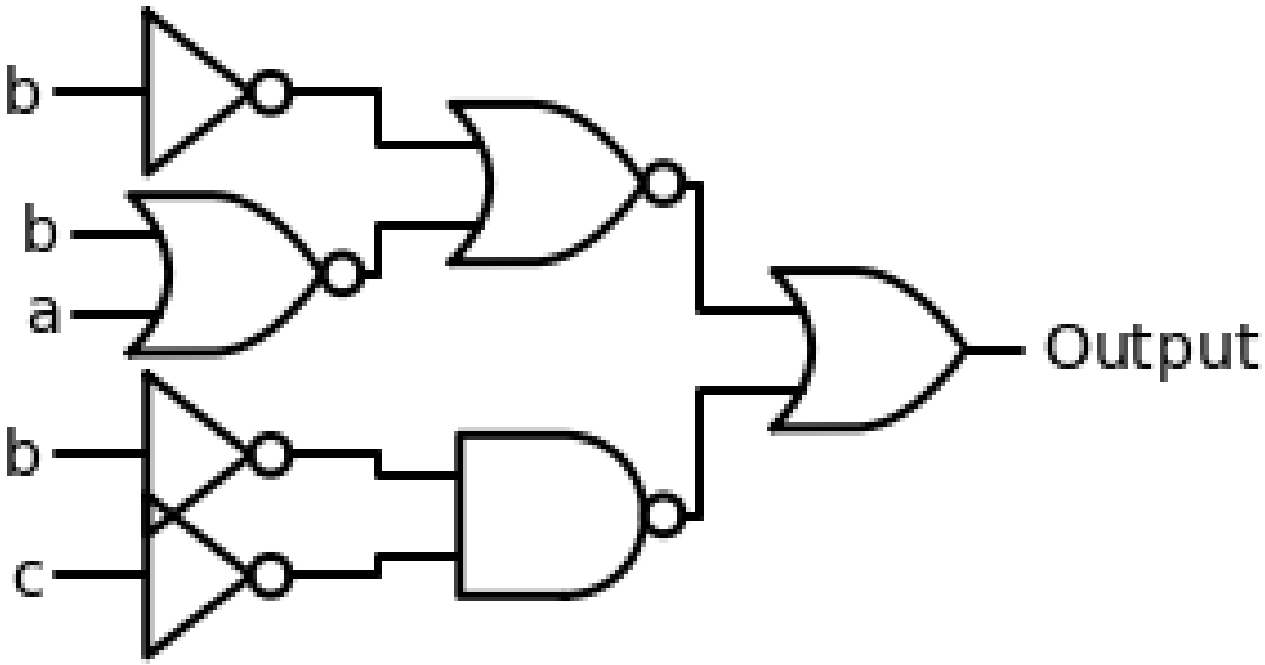
Correct Answer: yes

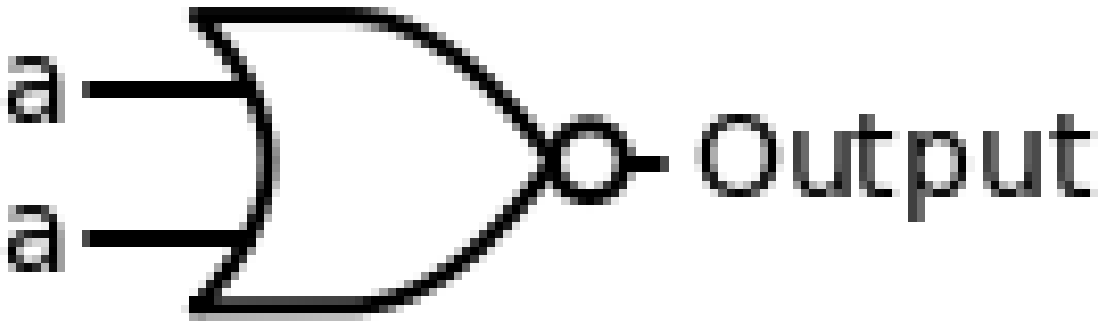
Question 19:

Are these two circuits equivalent?

Expression 1: (((not b) nor (b nor a)) or ((not b) nand (not c)))

Expression 2: (a nor a)





Options:

1. Yes

2. No

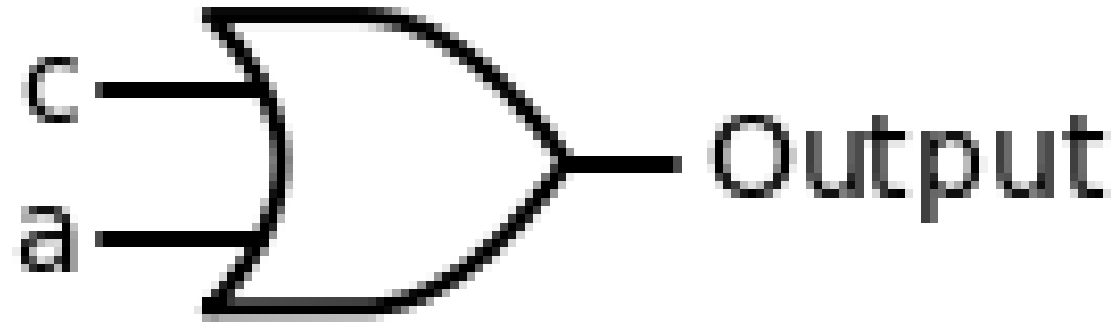
Correct Answer: no

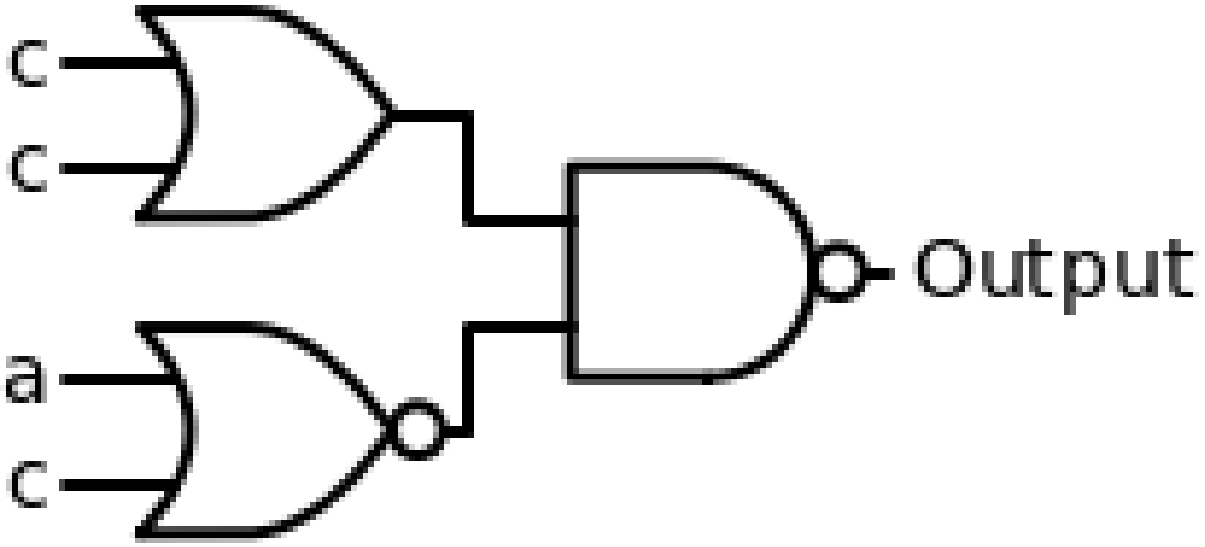
Question 20:

Are these two circuits equivalent?

Expression 1: (c or a)

Expression 2: ((c or c) nand (a nor c))





Options:

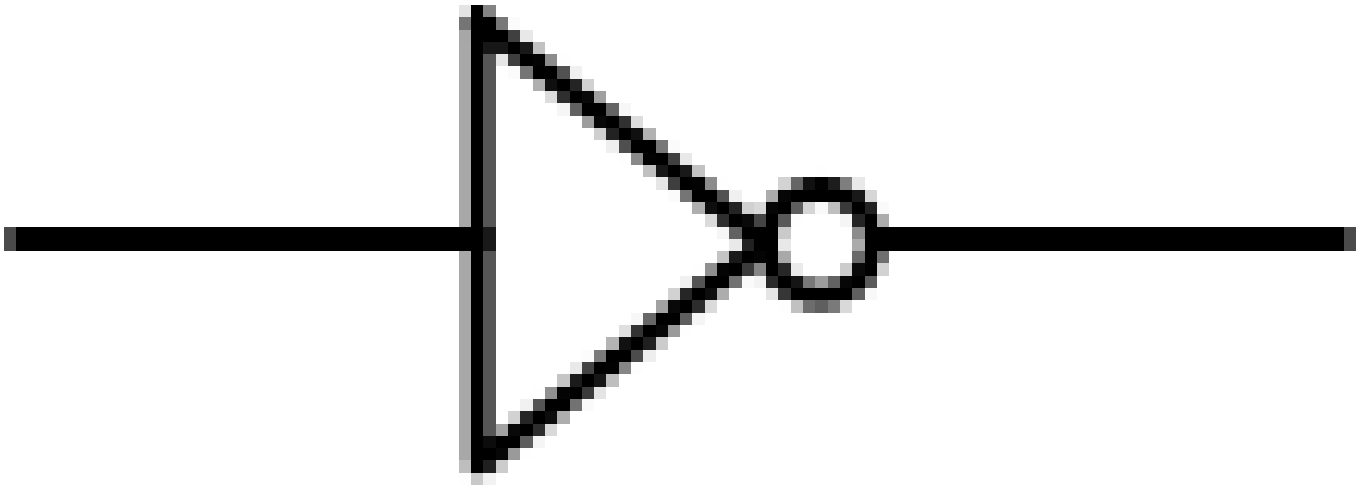
1. Yes

2. No

Correct Answer: no

Question 21:

What is the output of the NOT gate with input 0?



Options:

1. 0

2. 1

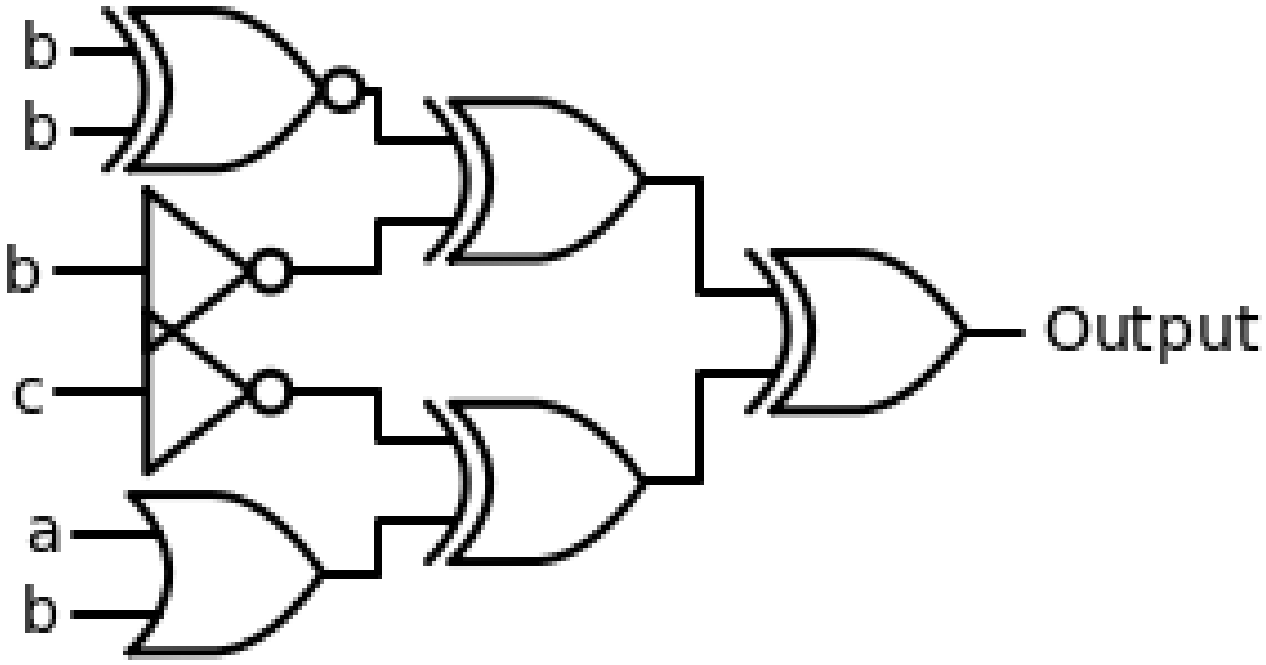
Correct Answer: 1

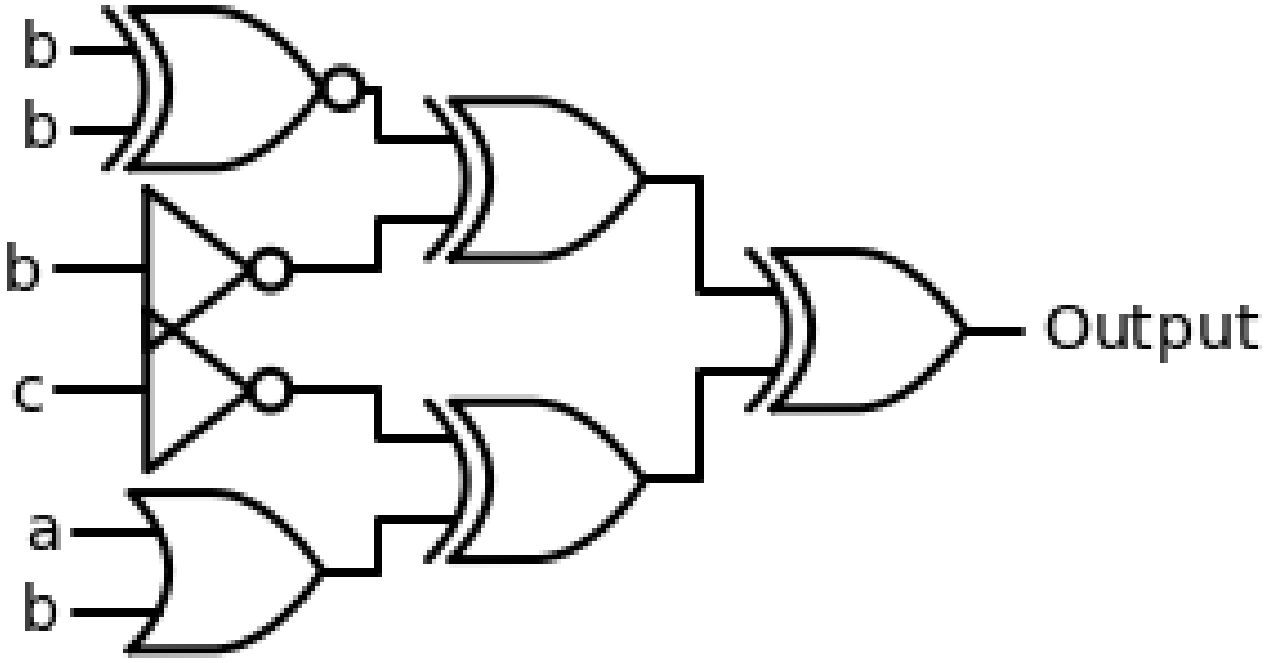
Question 22:

Are these two circuits equivalent?

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

Expression 2: (((b xnor b) xor (not b)) xor ((not c) xor (a or b)))





Options:

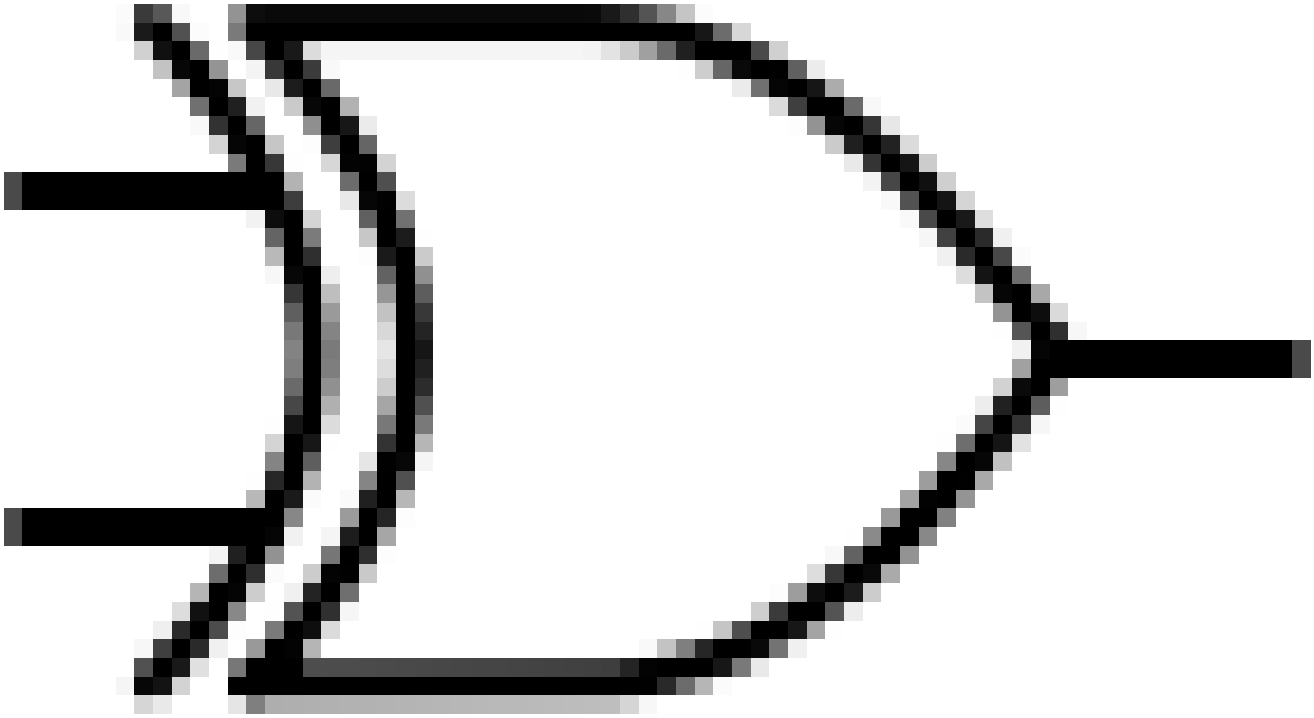
1. Yes

2. No

Correct Answer: yes

Question 23:

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



Options:

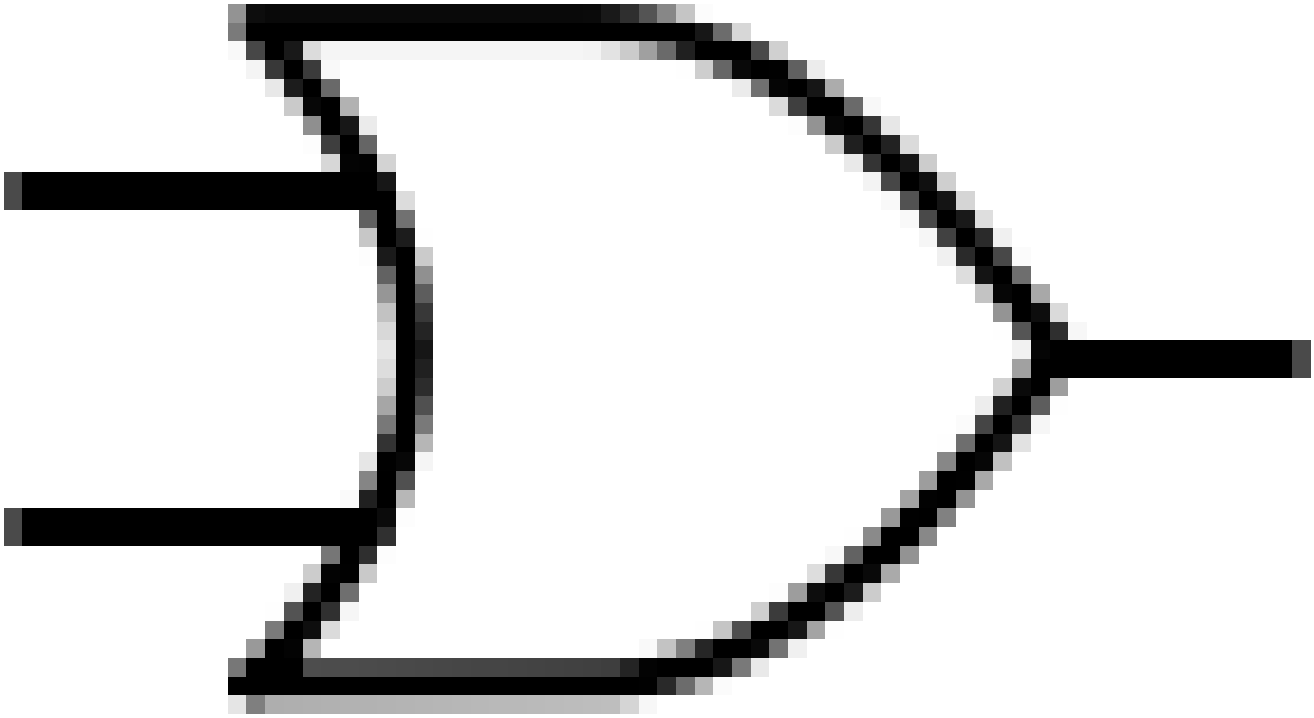
1. 1

2. 0

Correct Answer: 1

Question 24:

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



Options:

1. 0

2. 1

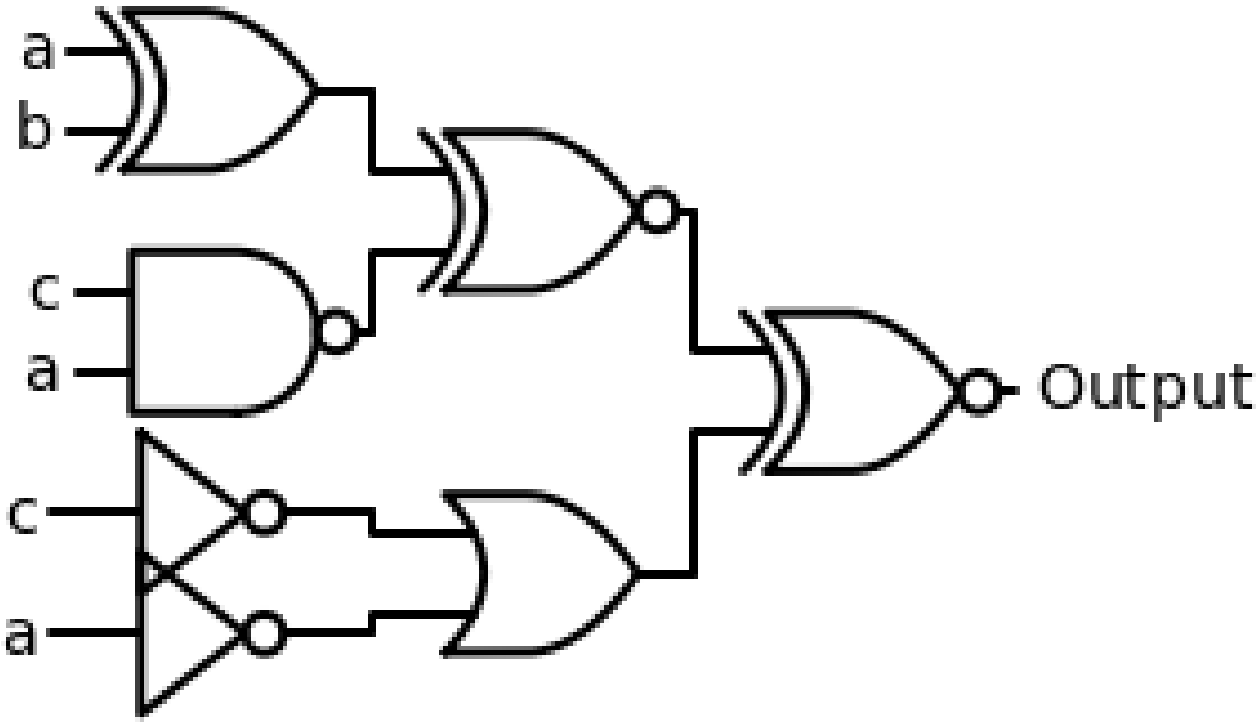
Correct Answer: 1

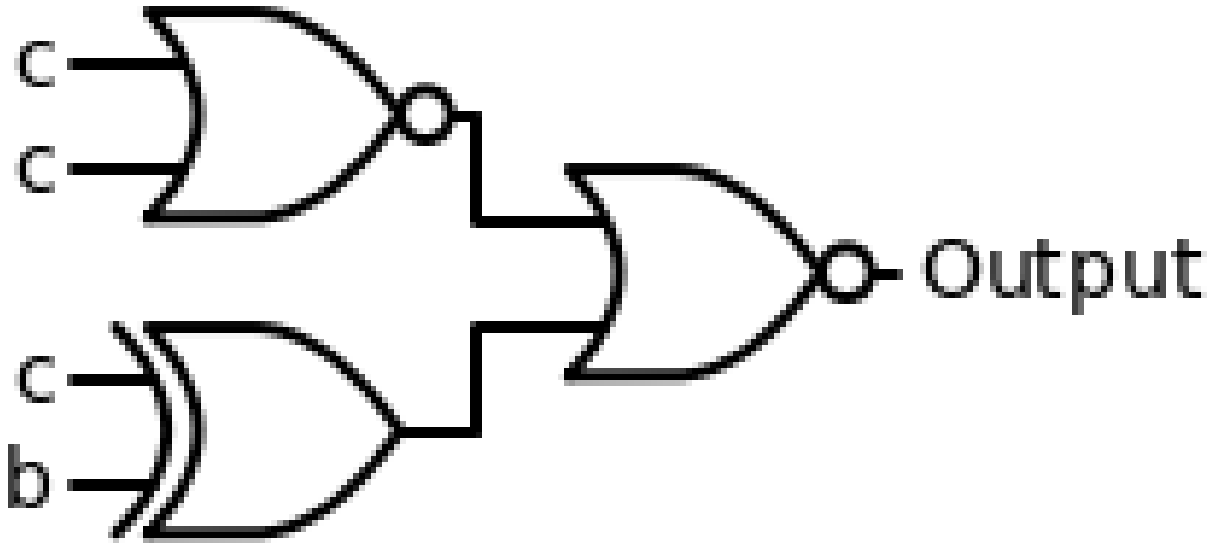
Question 25:

Are these two circuits equivalent?

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

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





Options:

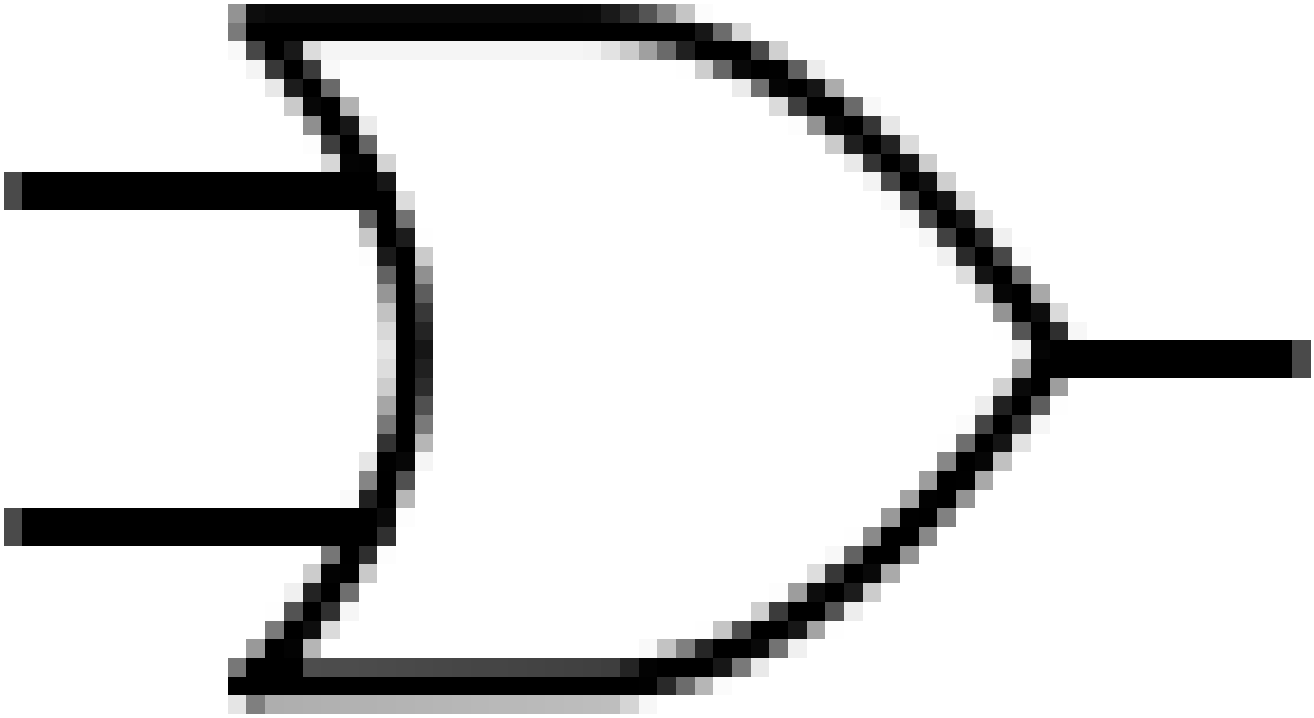
1. Yes

2. No

Correct Answer: no

Question 26:

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



Options:

1. 1

2. 0

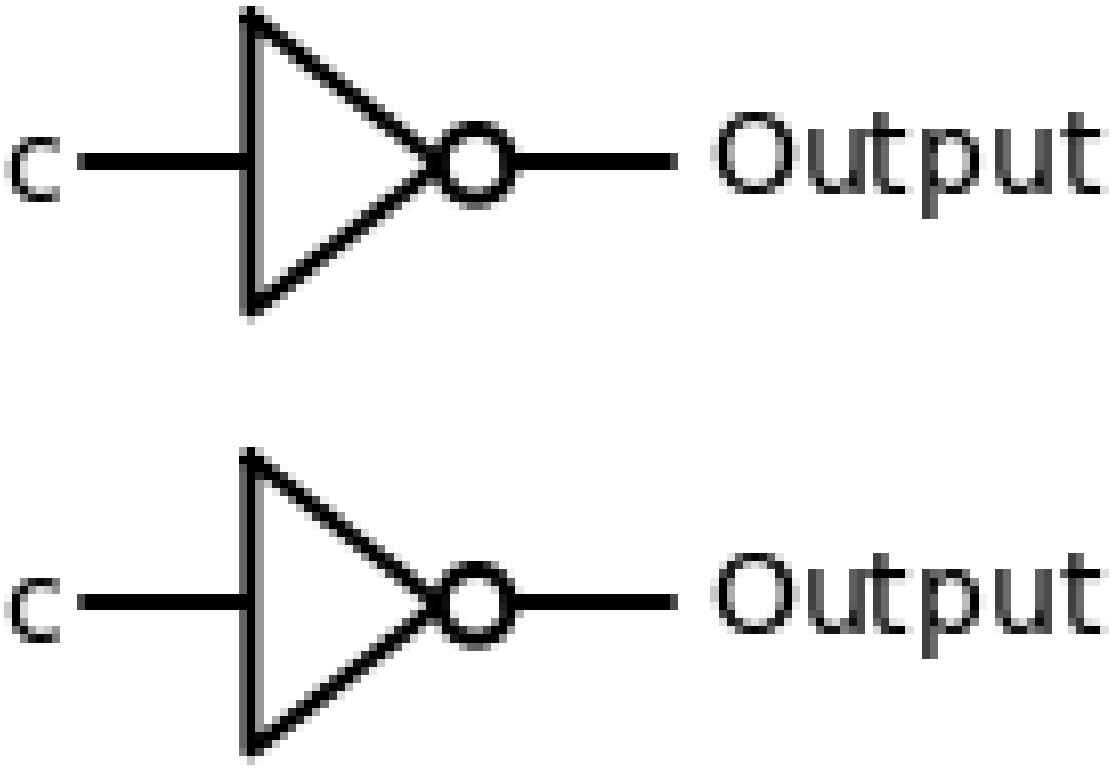
Correct Answer: 1

Question 27:

Are these two circuits equivalent?

Expression 1: (not c)

Expression 2: (not c)



Options:

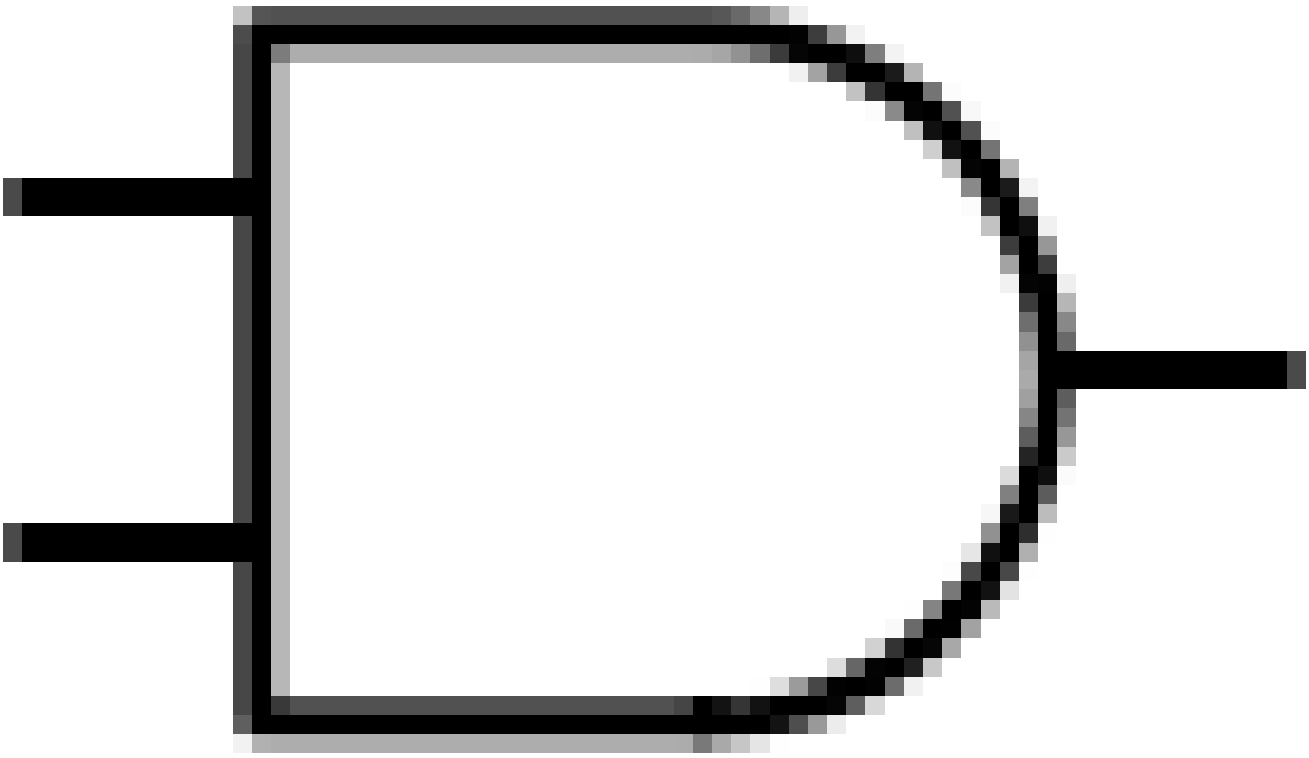
1. Yes

2. No

Correct Answer: yes

Question 28:

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



Options:

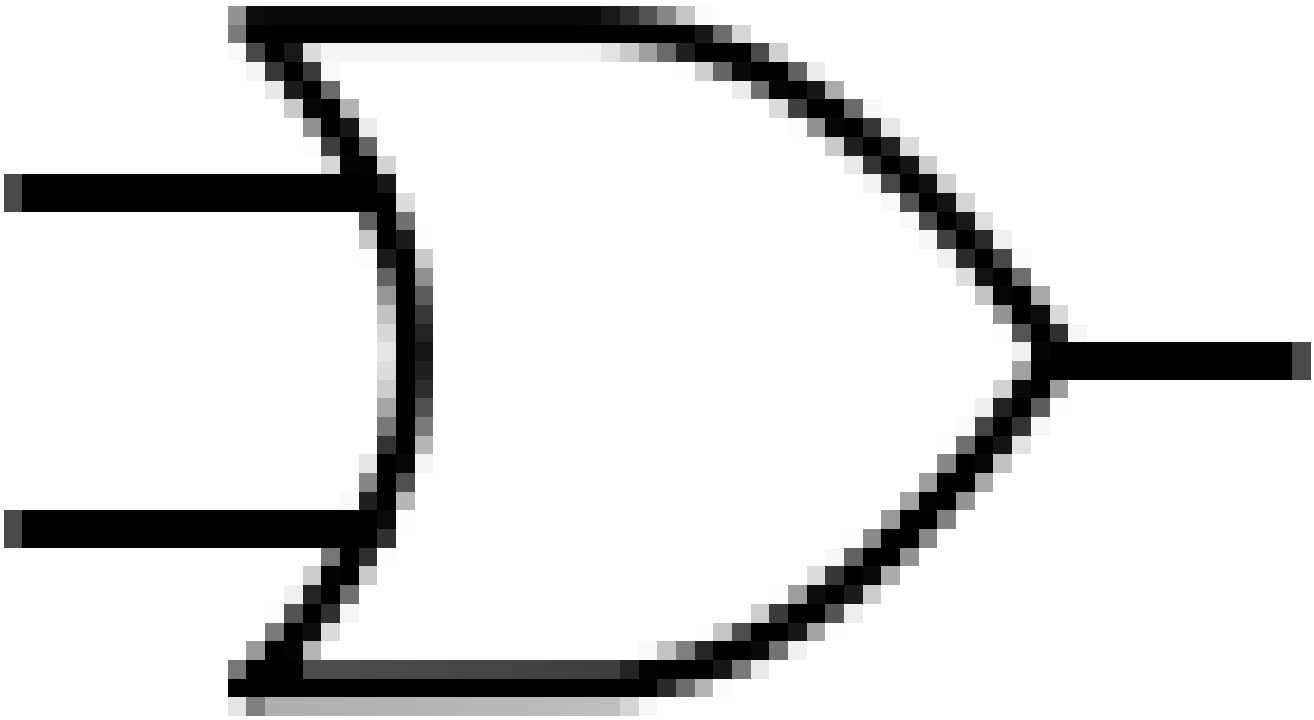
1. 1

2. 0

Correct Answer: 0

Question 29:

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



Options:

1. 0

2. 1

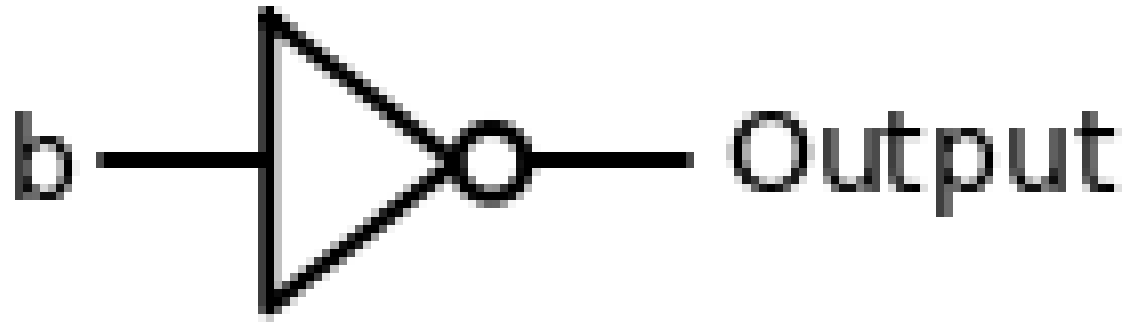
Correct Answer: 0

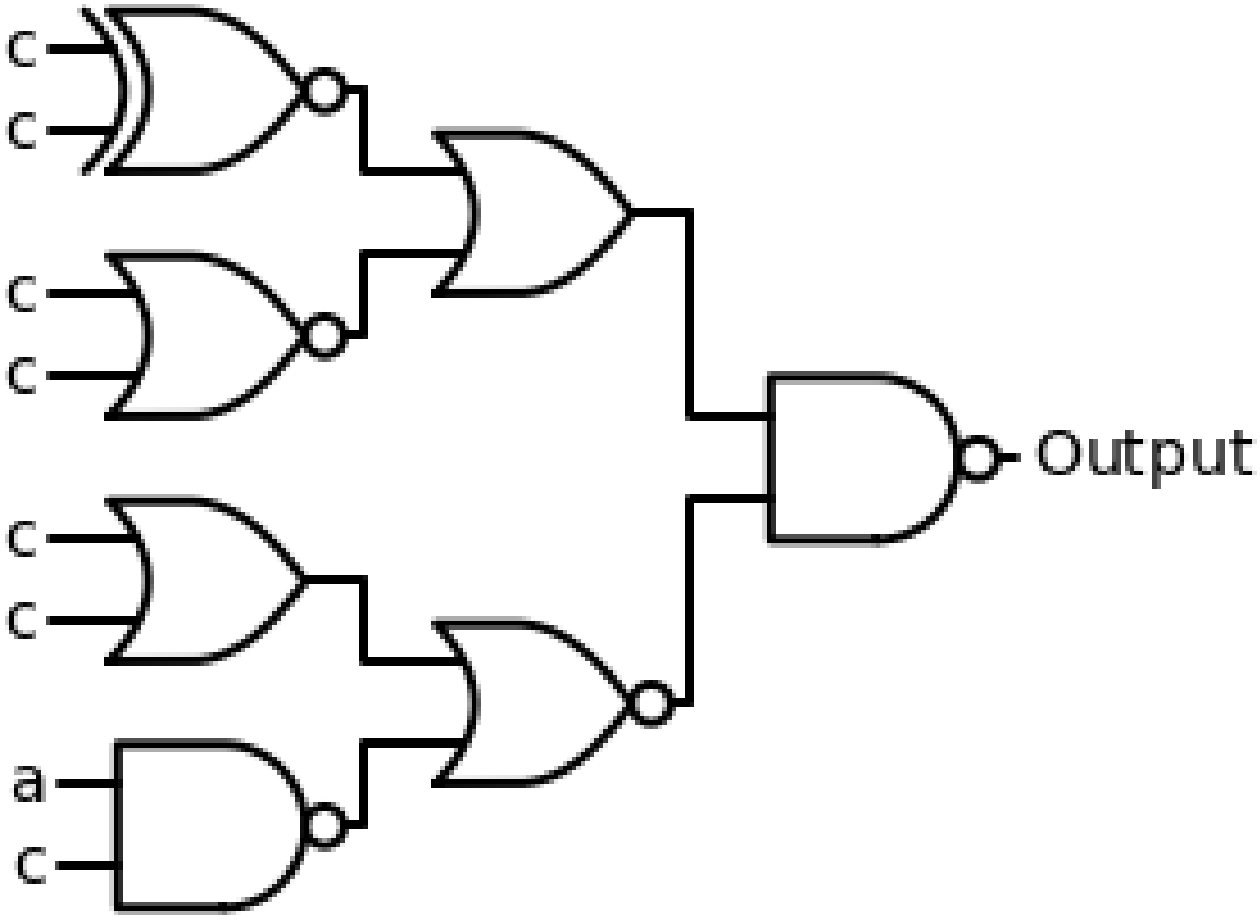
Question 30:

Are these two circuits equivalent?

Expression 1: (not b)

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





Options:

1. Yes

2. No

Correct Answer: no