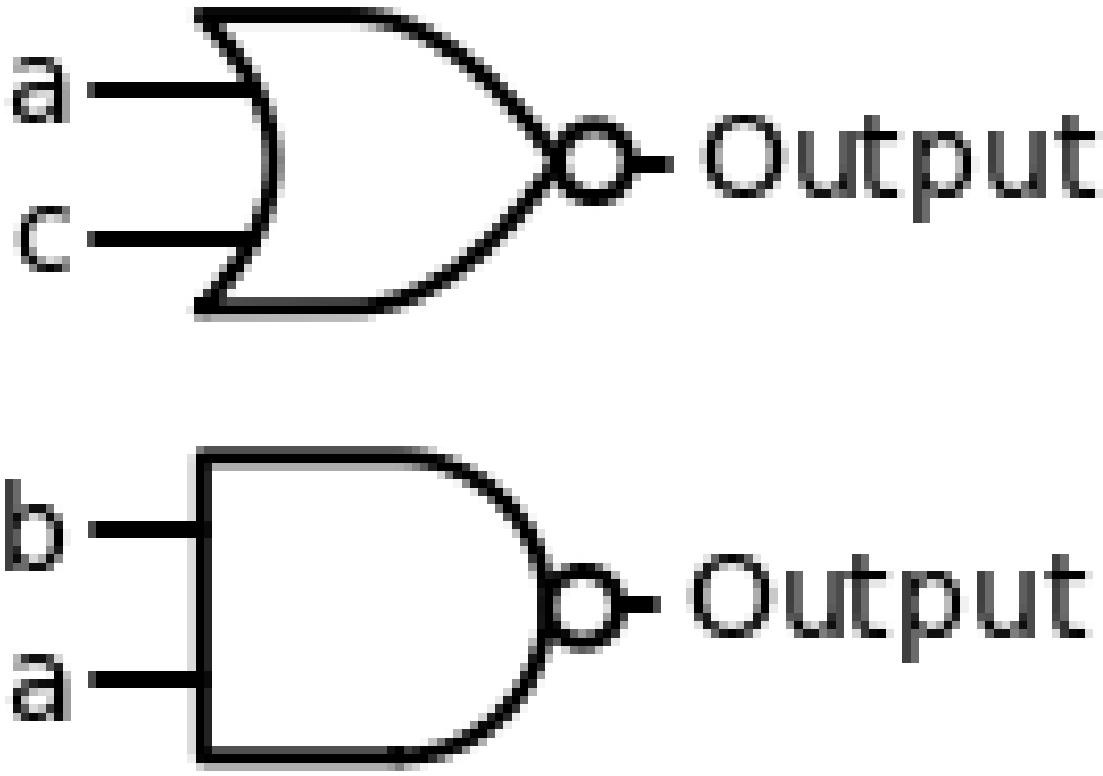
Question 1:

Are these two circuits equivalent?

Expression 1: (a nor c)

Expression 2: (b nand a)



Options:

1. Yes

2. No

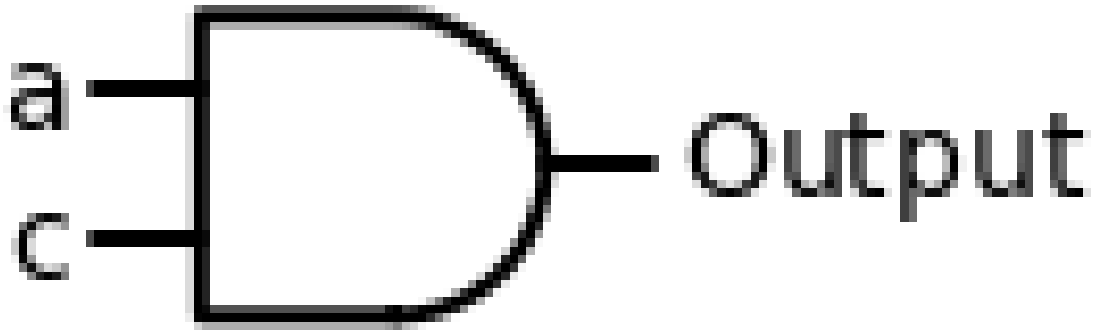
Correct Answer: no

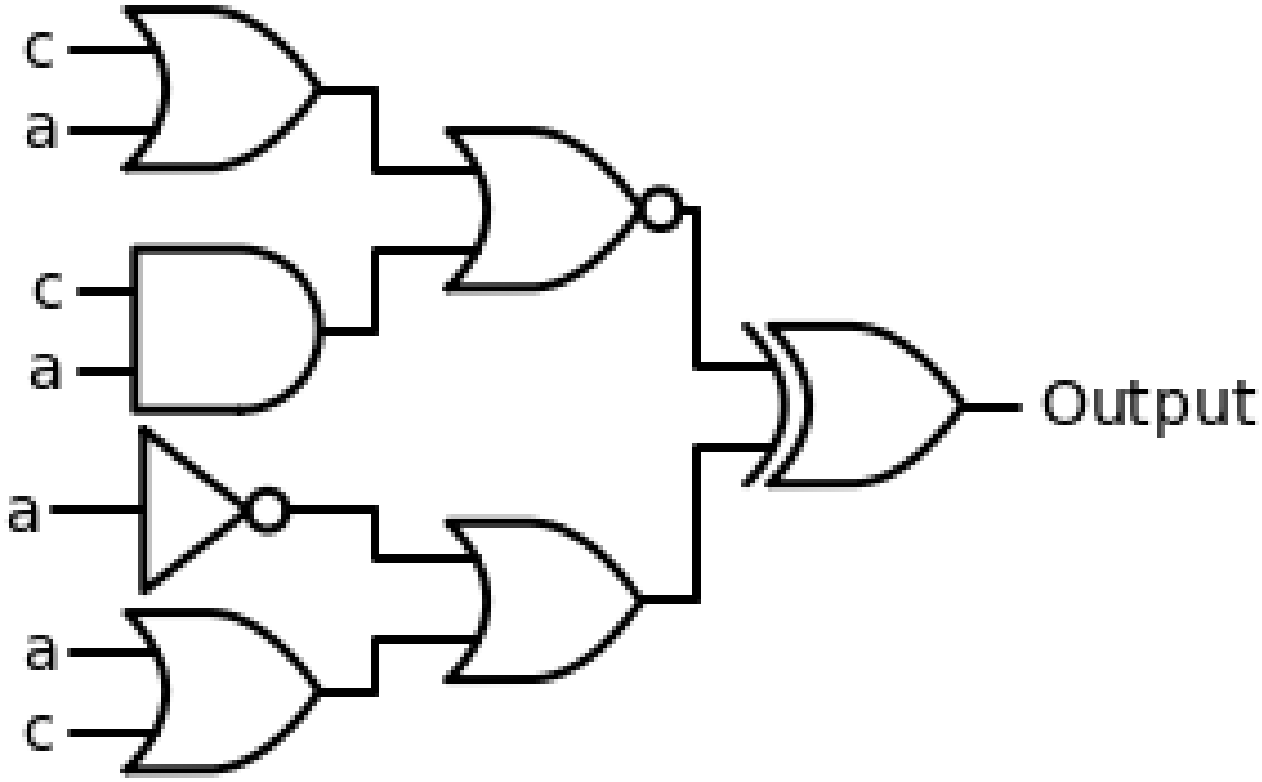
Question 2:

Are these two circuits equivalent?

Expression 1: (not (a nand c))

Expression 2: (((c or a) nor (c and a)) xor ((not a) or (a or c)))





Options:

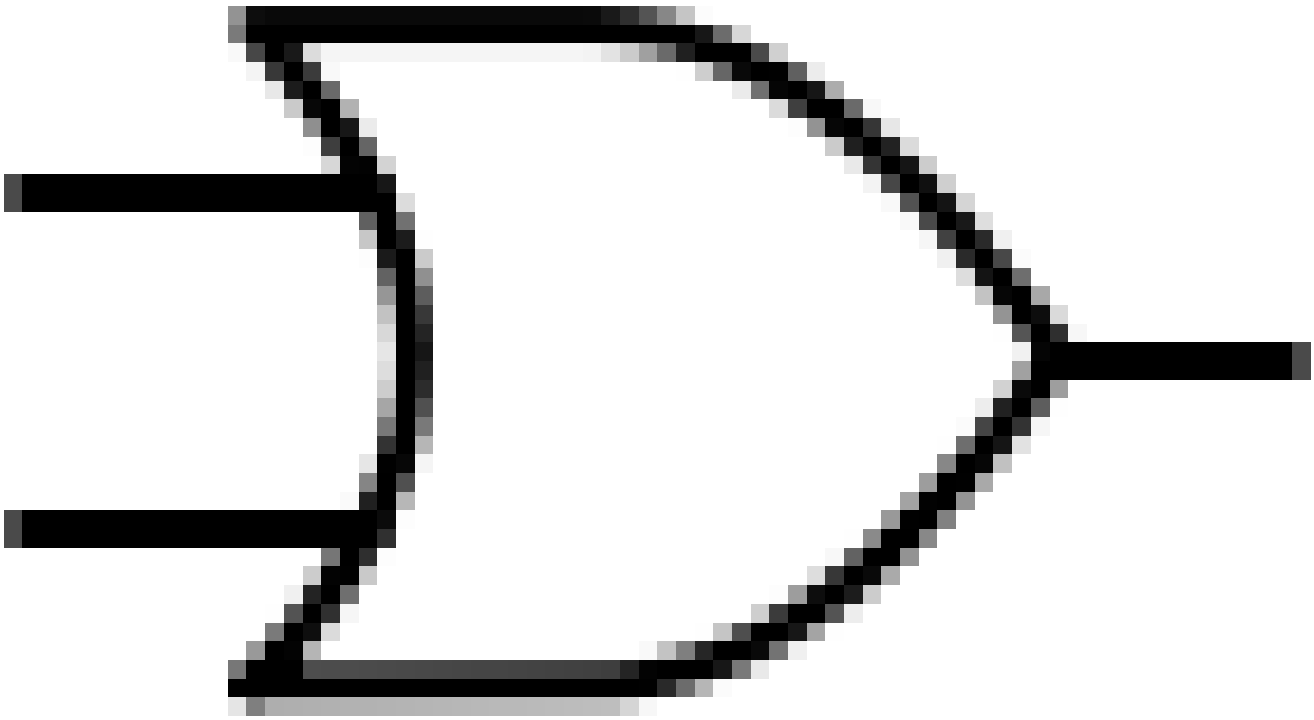
1. Yes

2. No

Correct Answer: no

Question 3:

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



Options:

1. 0

2. 1

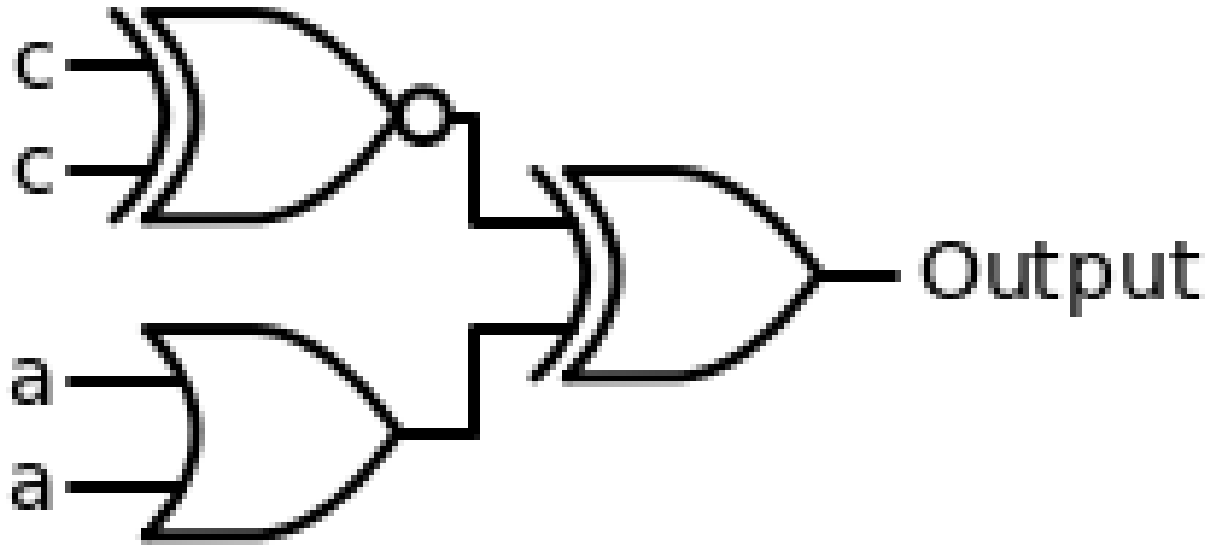
Correct Answer: 1

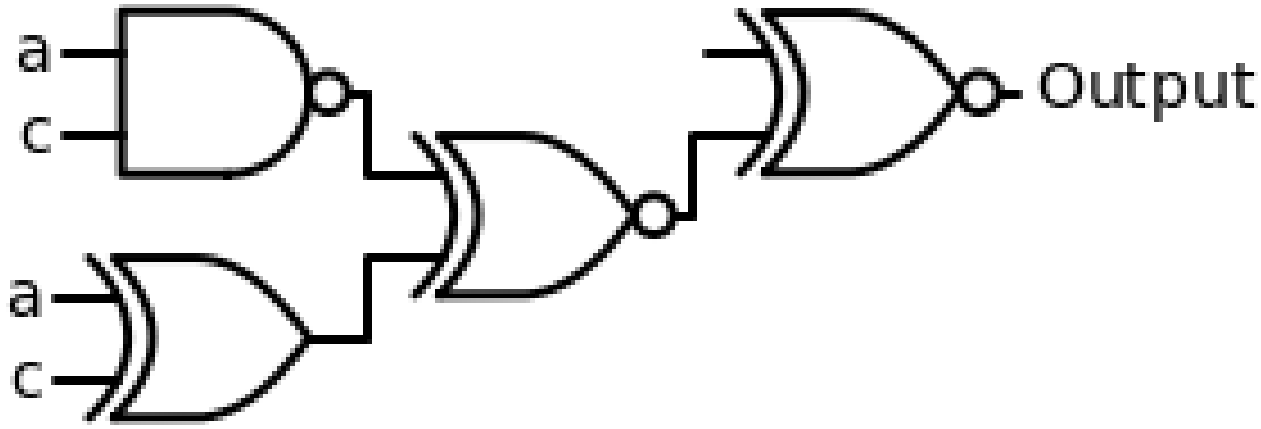
Question 4:

Are these two circuits equivalent?

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

Expression 2: ((not (not a)) xnor ((a nand c) xnor (a xor c)))





Options:

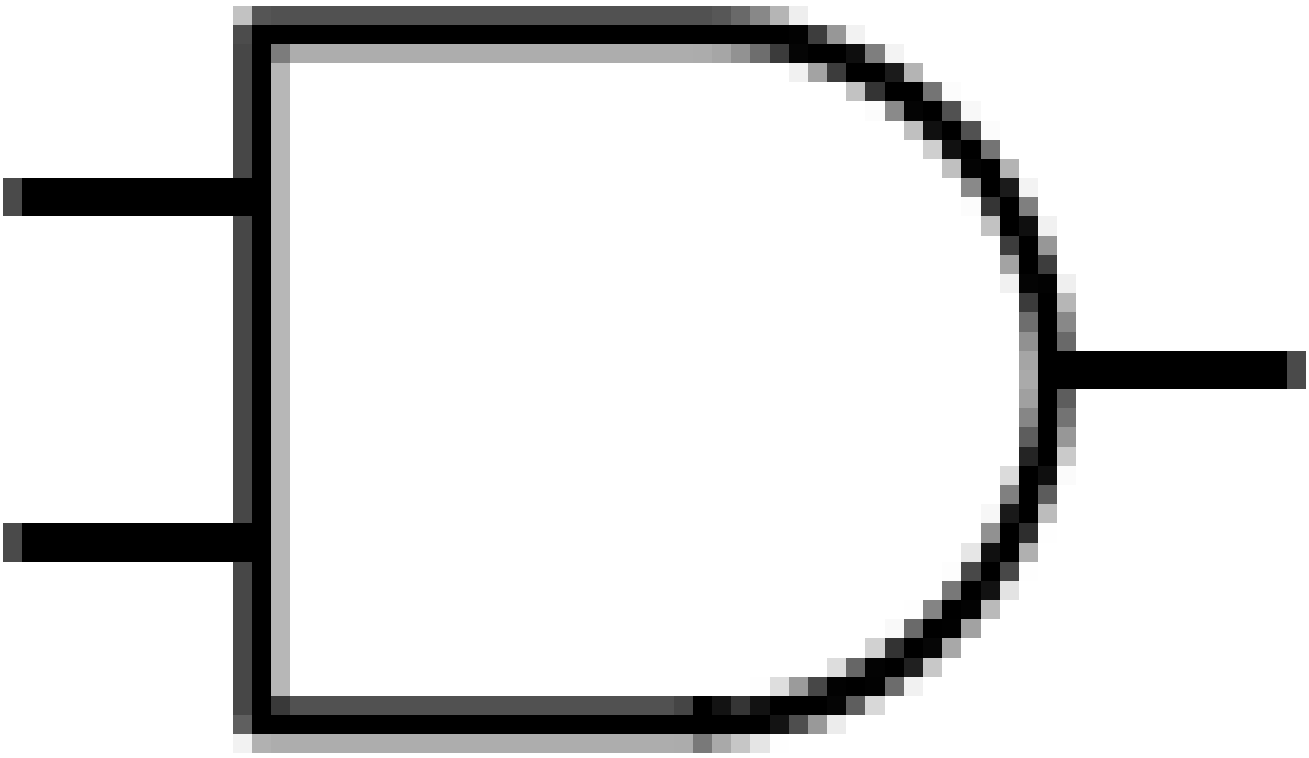
1. Yes

2. No

Correct Answer: no

Question 5:

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



Options:

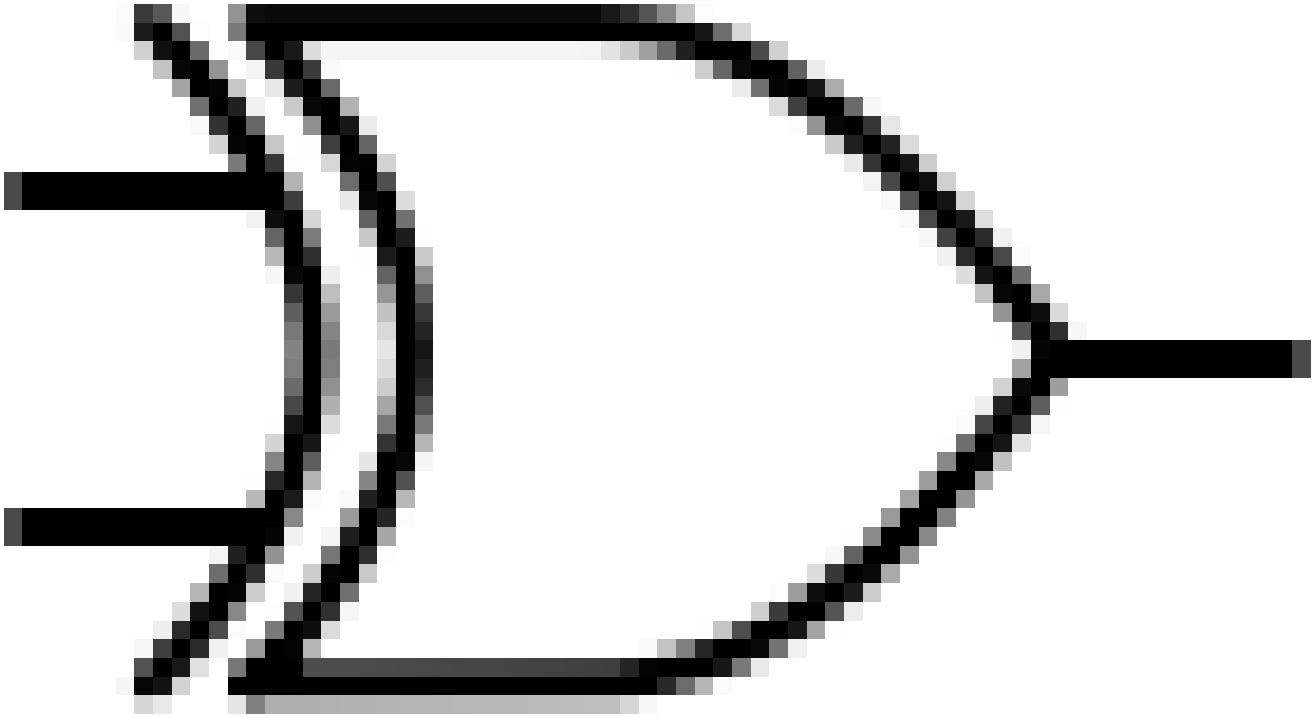
1. 0

2. 1

Correct Answer: 1

Question 6:

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



Options:

1. 0

2. 1

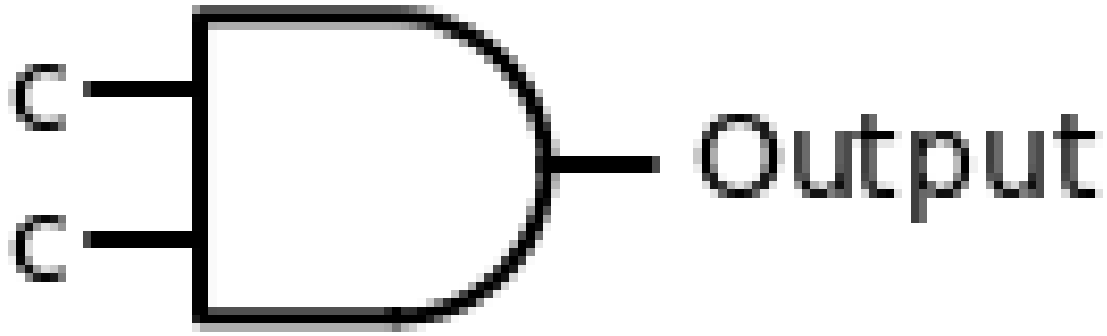
Correct Answer: 0

Question 7:

Are these two circuits equivalent?

Expression 1: (c and c)

Expression 2: (b nor b)



Options:

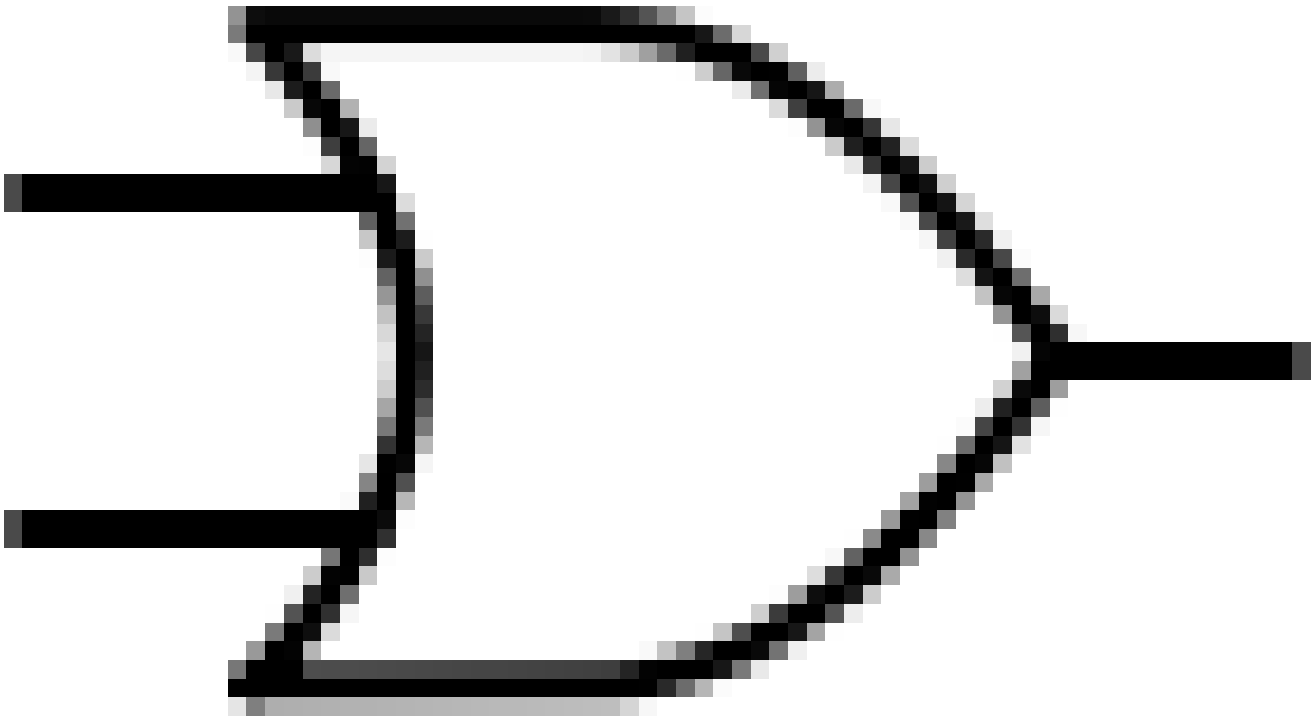
1. Yes

2. No

Correct Answer: no

Question 8:

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



Options:

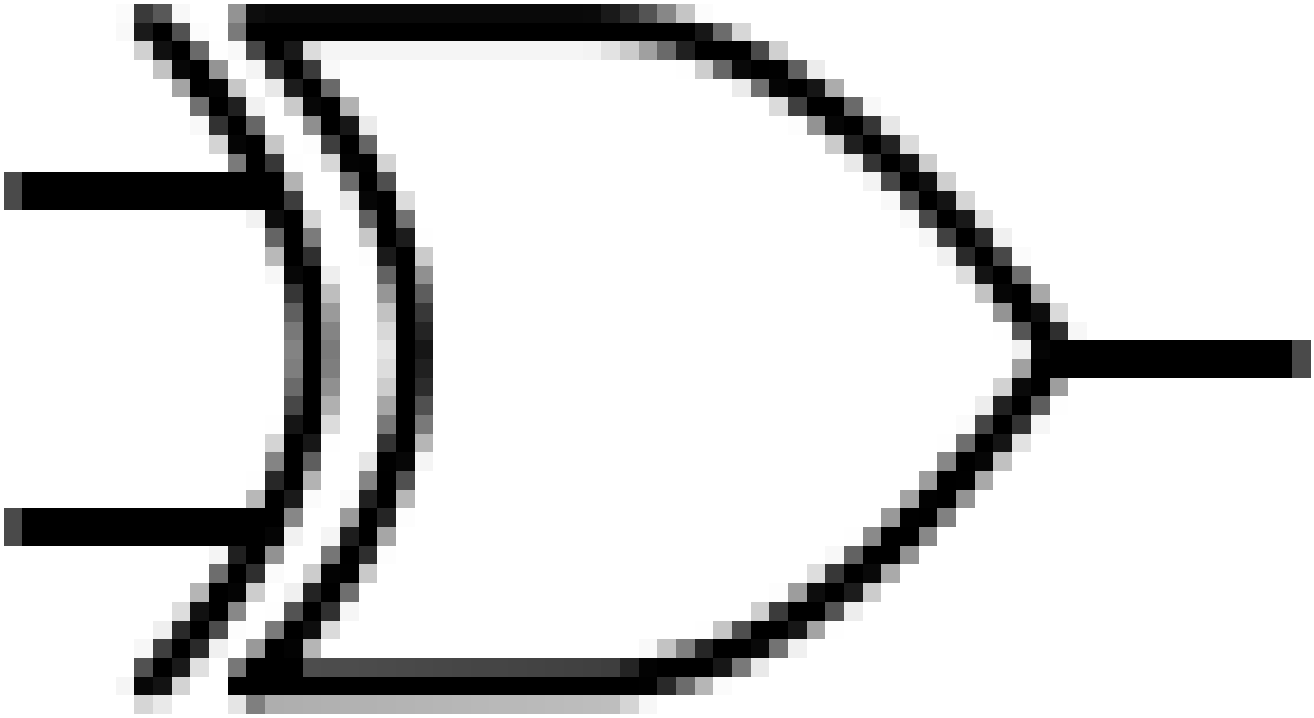
1. 0

2. 1

Correct Answer: 1

Question 9:

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



Options:

1. 0

2. 1

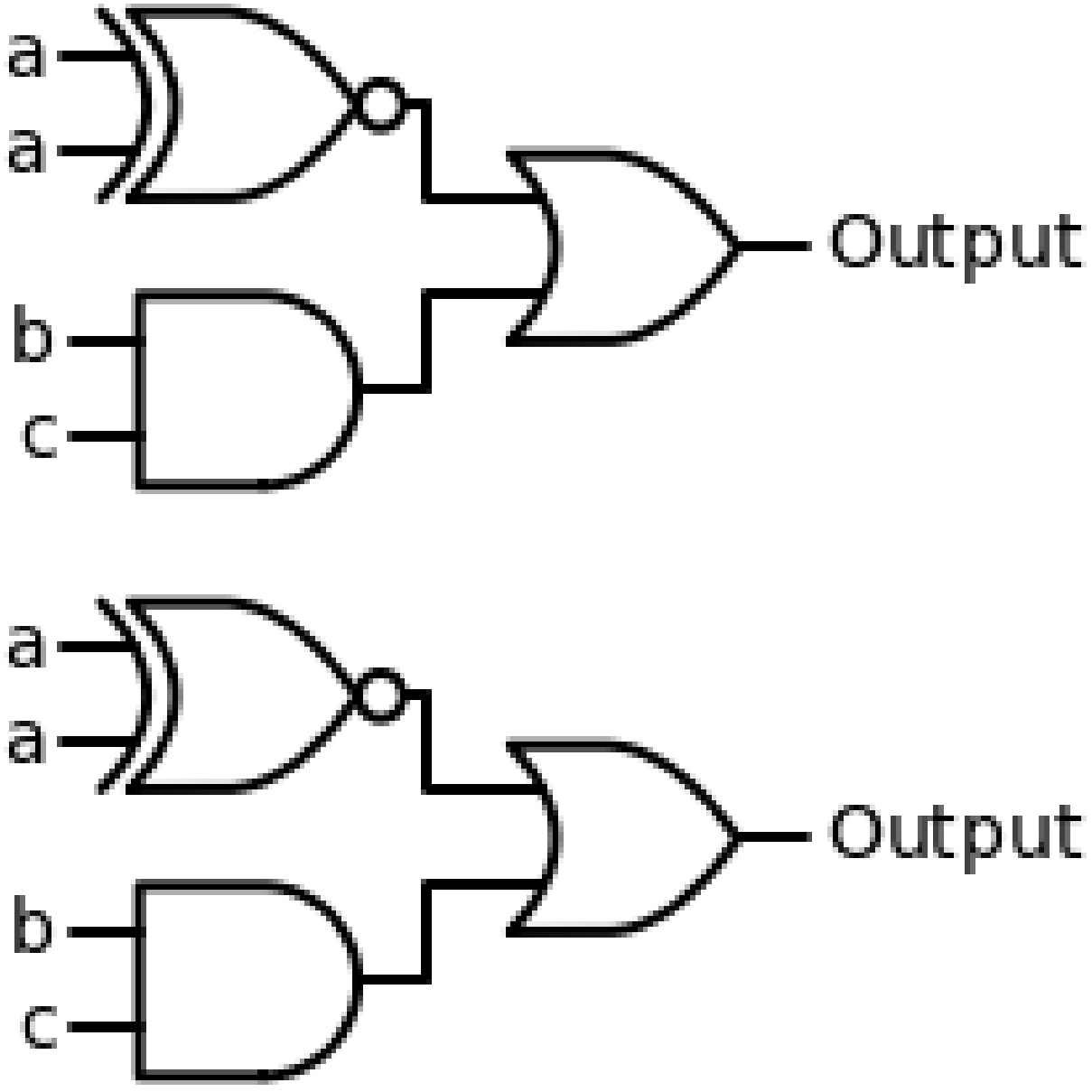
Correct Answer: 0

Question 10:

Are these two circuits equivalent?

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

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



Options:

1. Yes

2. No

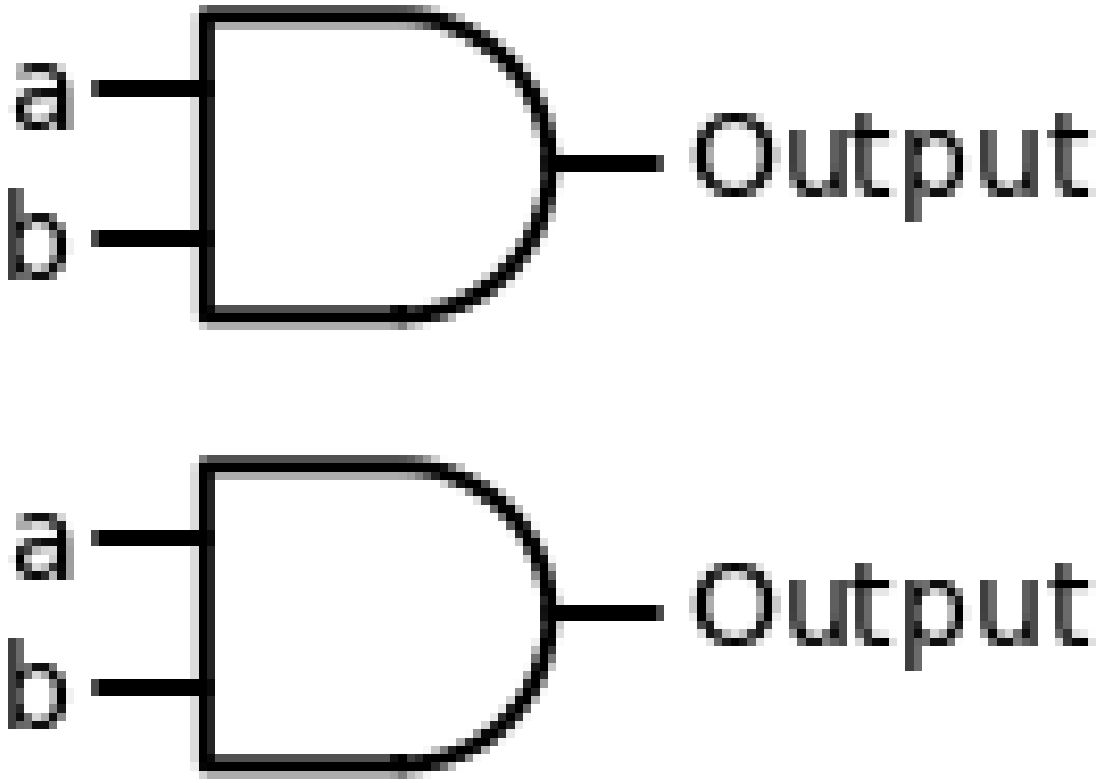
Correct Answer: yes

Question 11:

Are these two circuits equivalent?

Expression 1: (a and b)

Expression 2: (a and b)



Options:

1. Yes

2. No

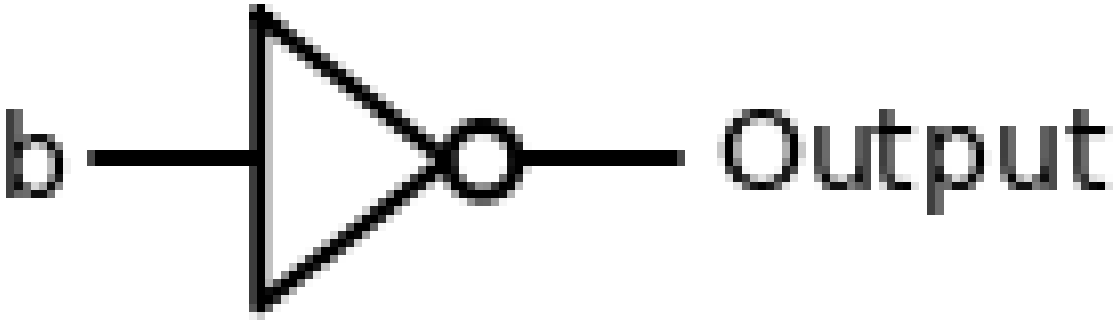
Correct Answer: yes

Question 12:

Are these two circuits equivalent?

Expression 1: (b nand c)

Expression 2: (not b)



Options:

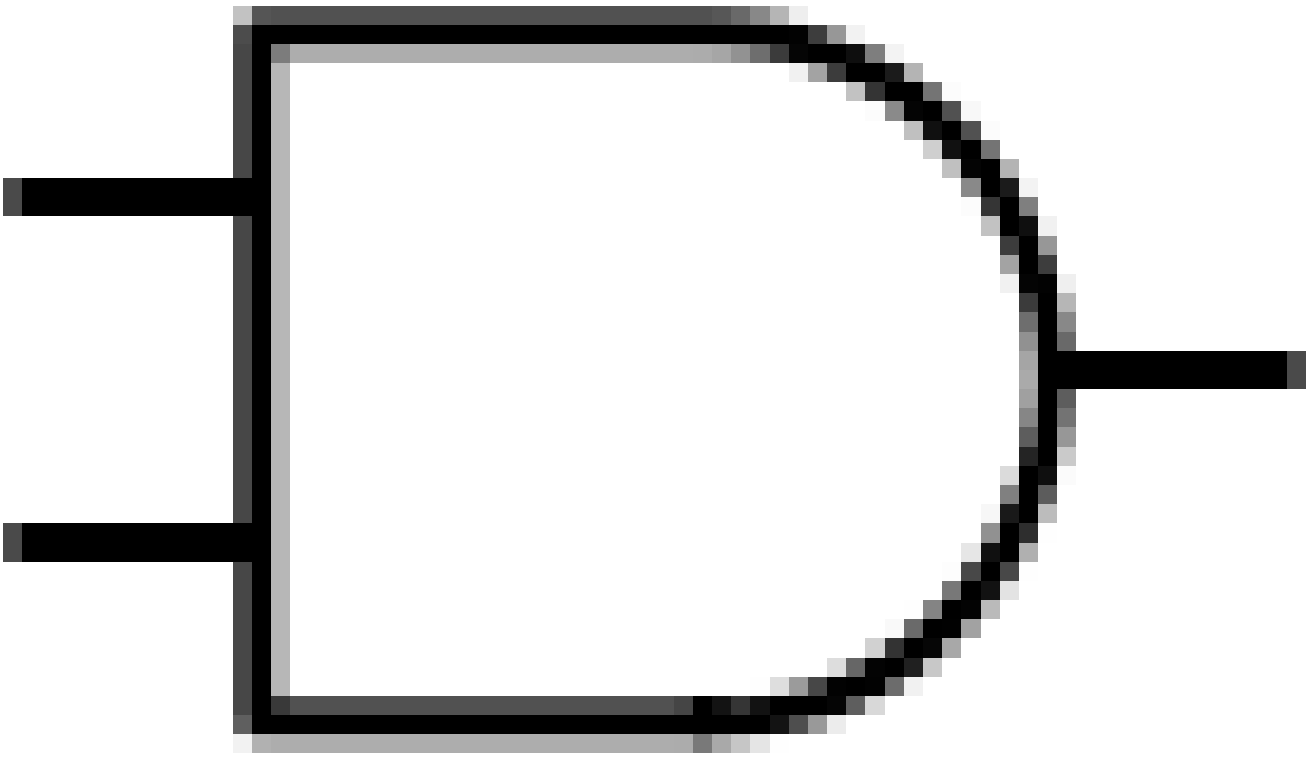
1. Yes

2. No

Correct Answer: no

Question 13:

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



Options:

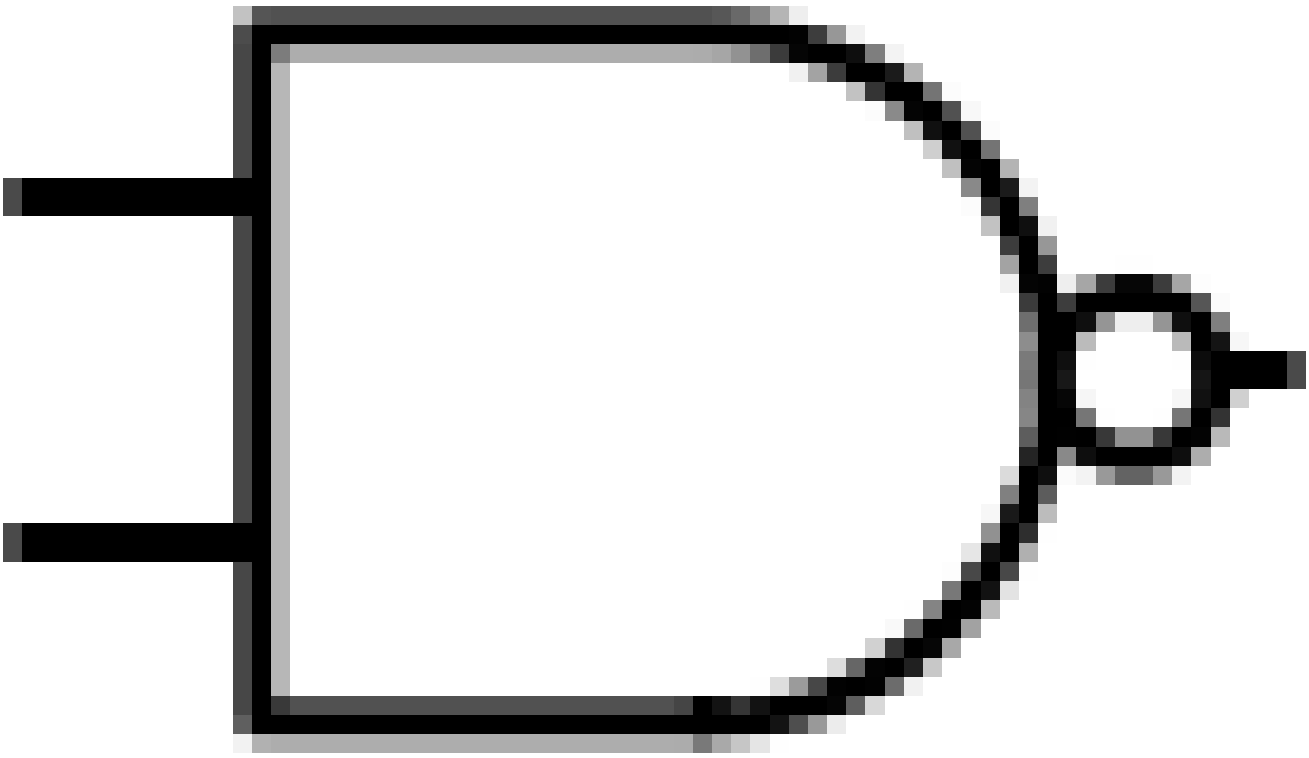
1. 0

2. 1

Correct Answer: 0

Question 14:

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



Options:

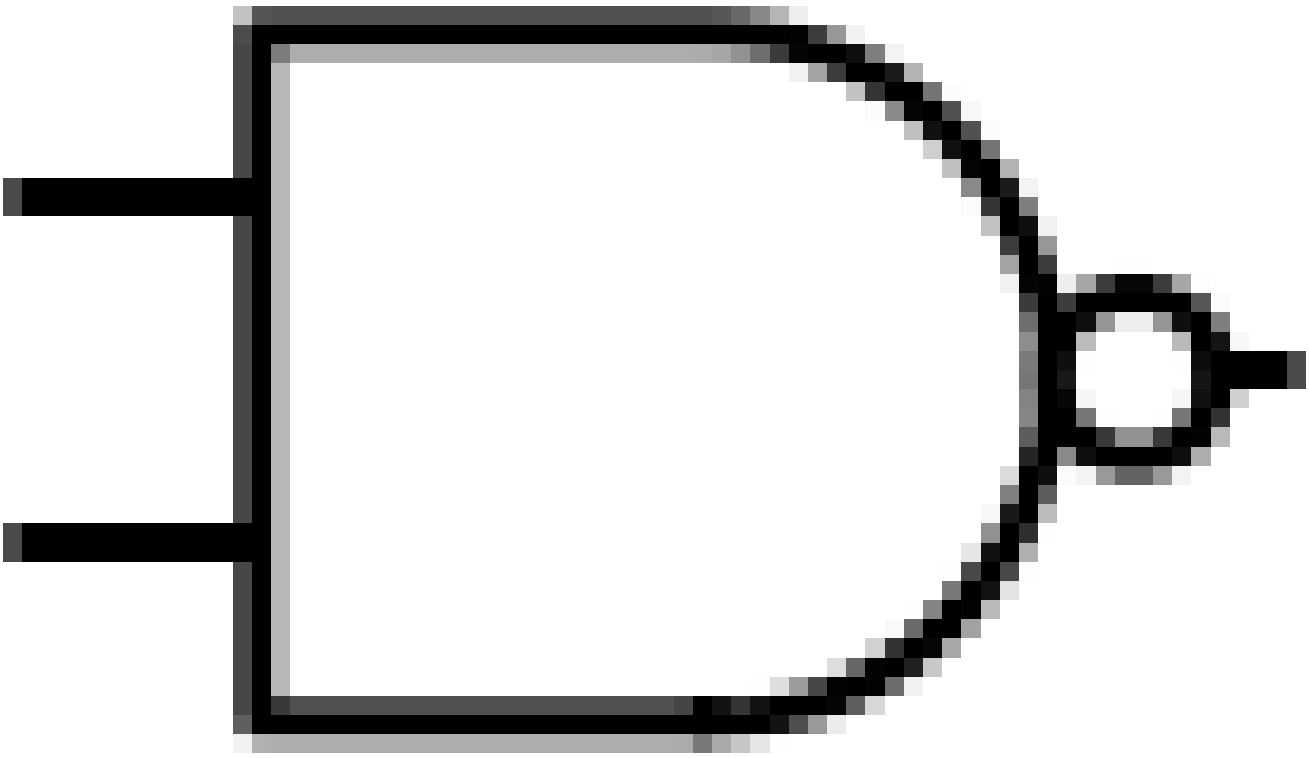
1. 0

2. 1

Correct Answer: 0

Question 15:

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



Options:

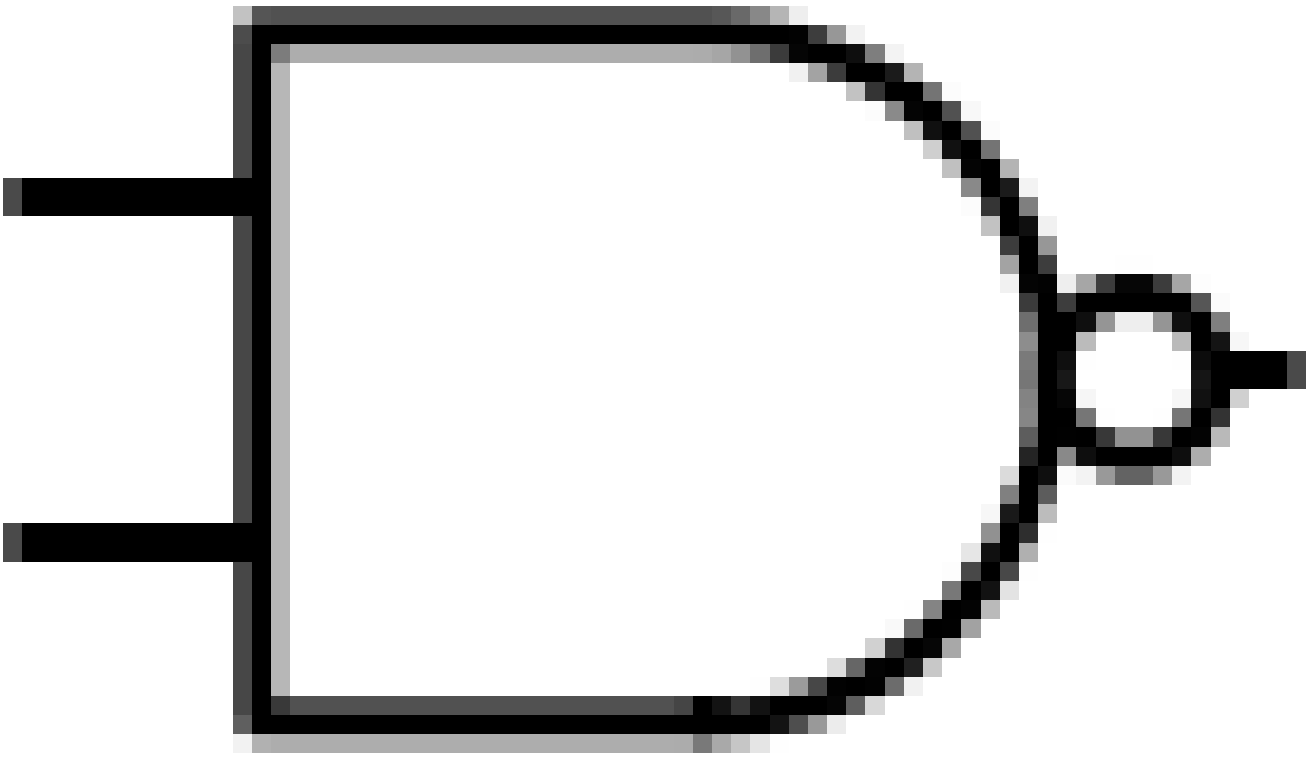
1. 0

2. 1

Correct Answer: 1

Question 16:

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



Options:

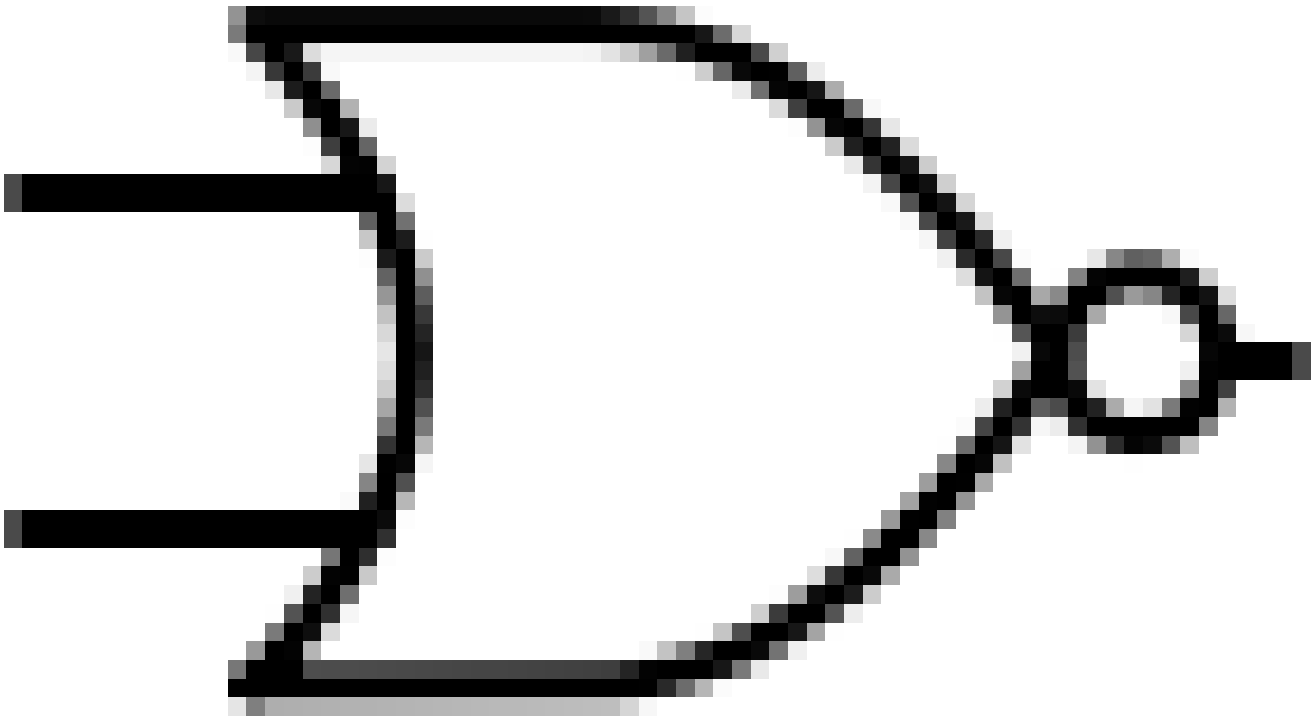
1. 1

2. 0

Correct Answer: 1

Question 17:

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



Options:

1. 0

2. 1

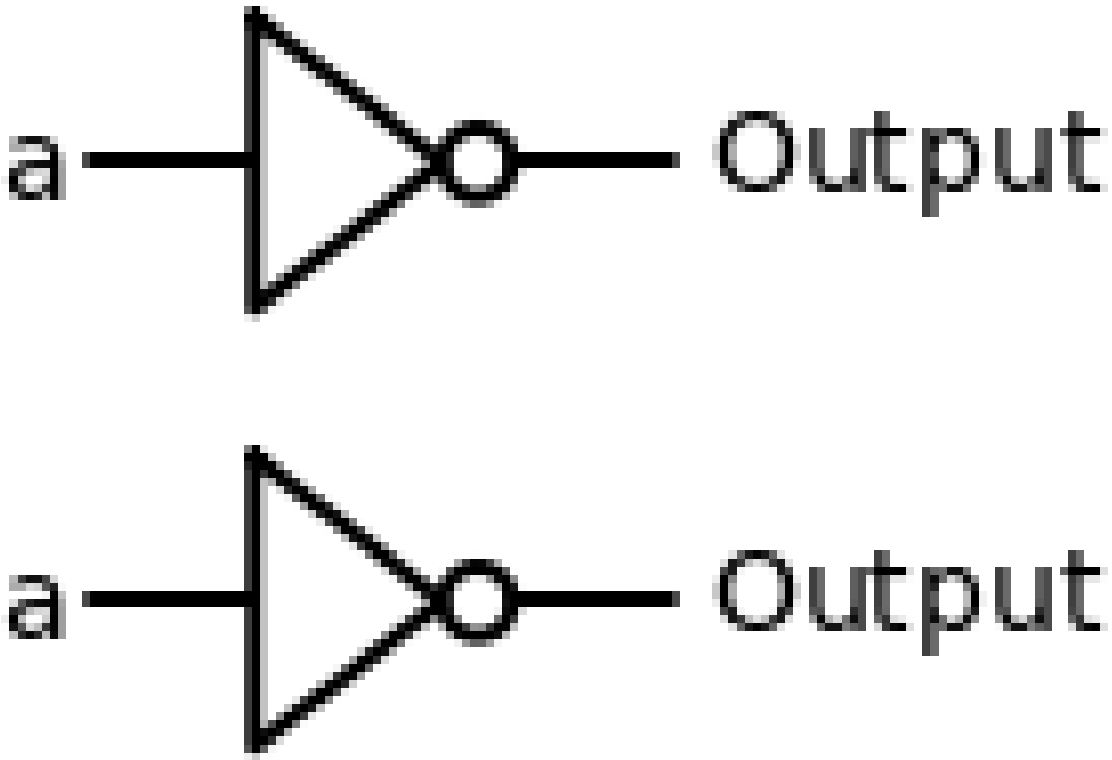
Correct Answer: 0

Question 18:

Are these two circuits equivalent?

Expression 1: (not a)

Expression 2: (not a)



Options:

1. Yes

2. No

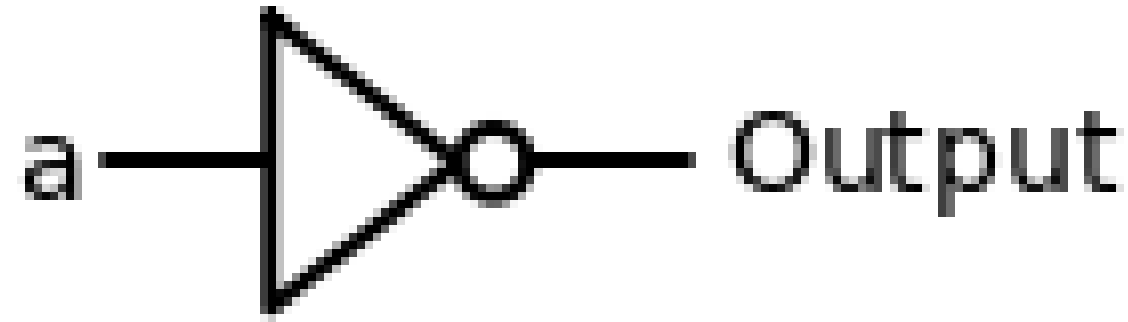
Correct Answer: yes

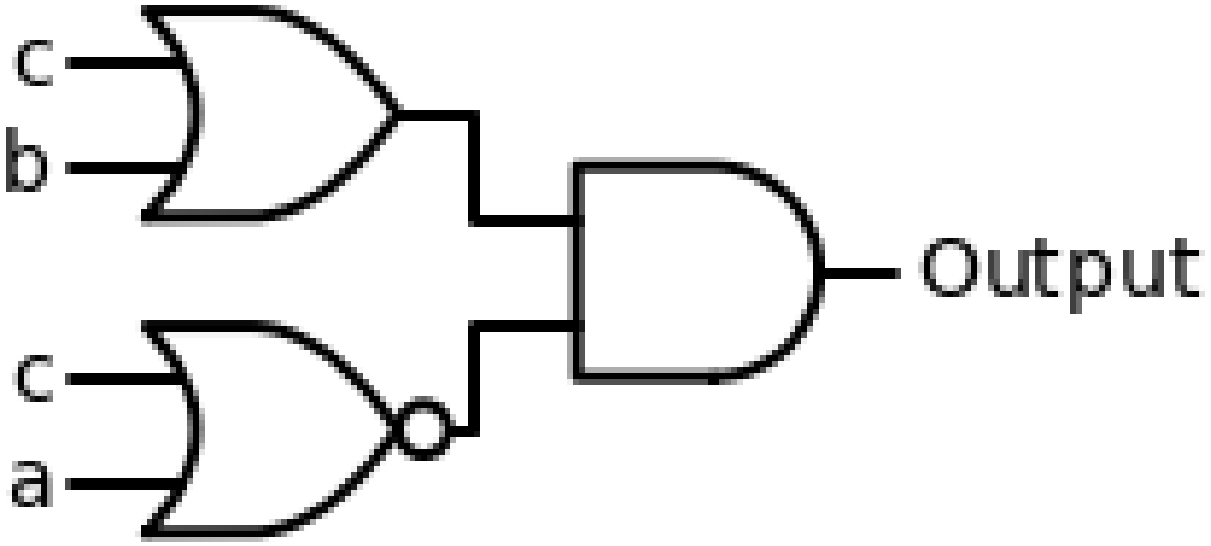
Question 19:

Are these two circuits equivalent?

Expression 1: (not a)

Expression 2: ((c or b) and (c nor a))





Options:

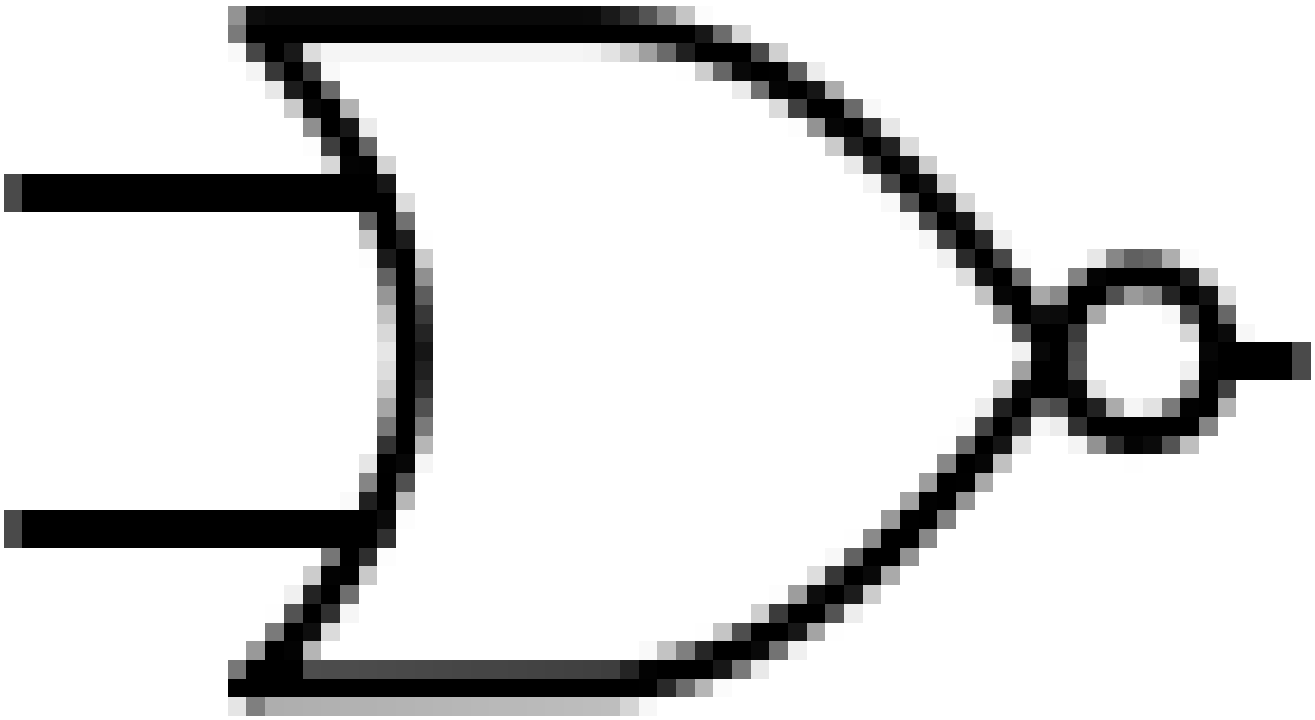
1. Yes

2. No

Correct Answer: no

Question 20:

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



Options:

1. 1

2. 0

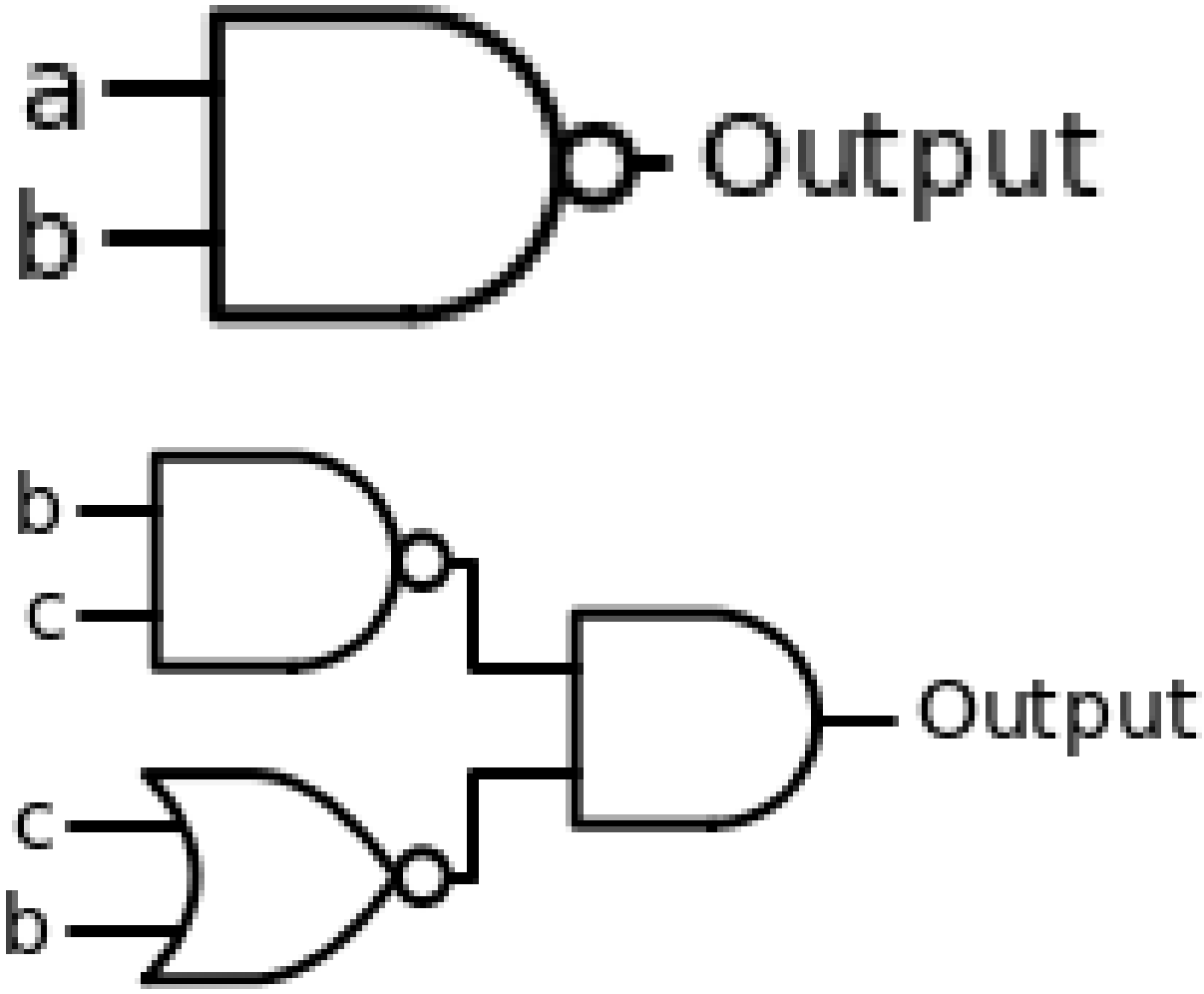
Correct Answer: 0

Question 21:

Are these two circuits equivalent?

Expression 1: (a nand b)

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



Options:

1. Yes

2. No

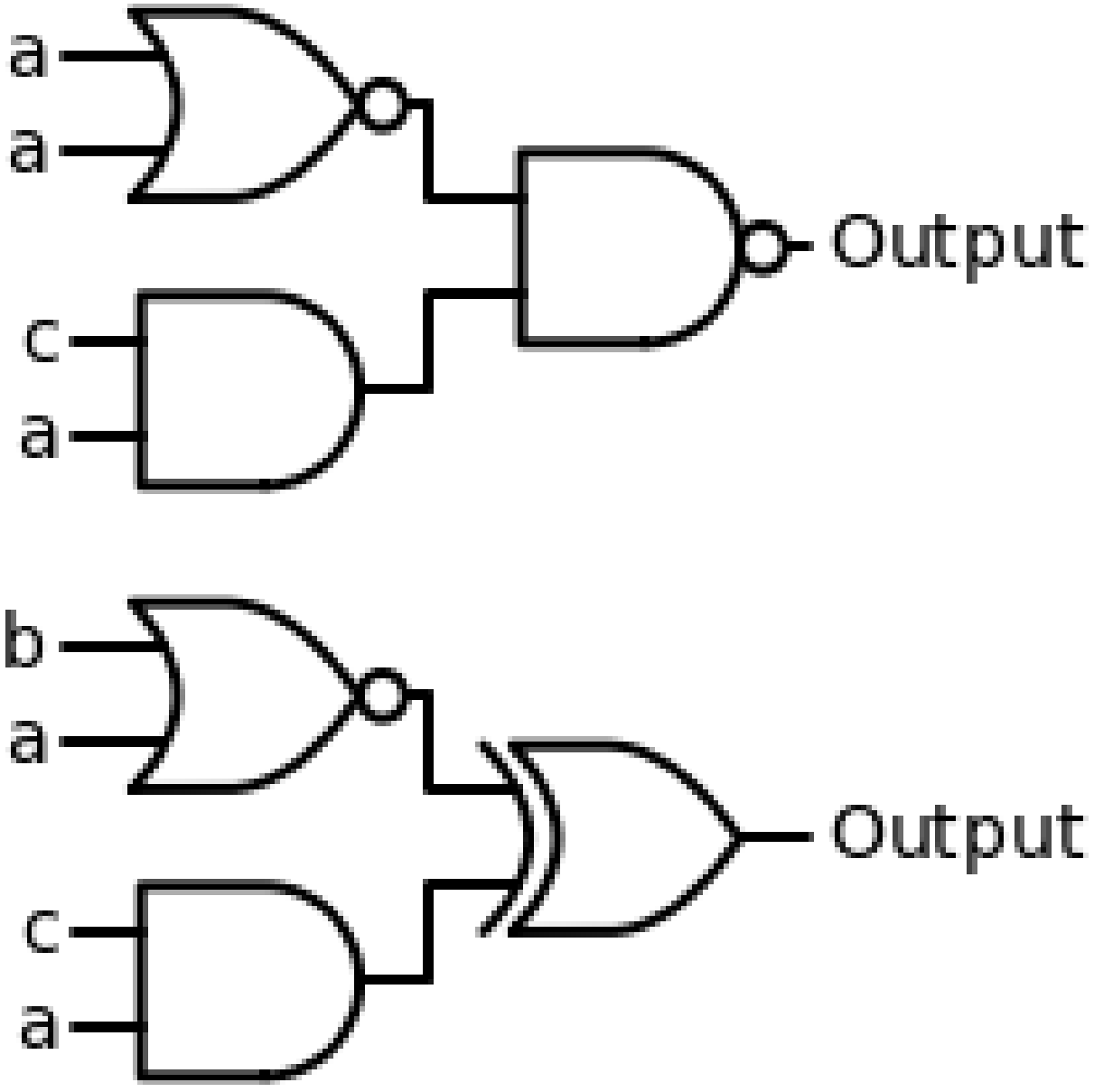
Correct Answer: no

Question 22:

Are these two circuits equivalent?

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

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



Options:

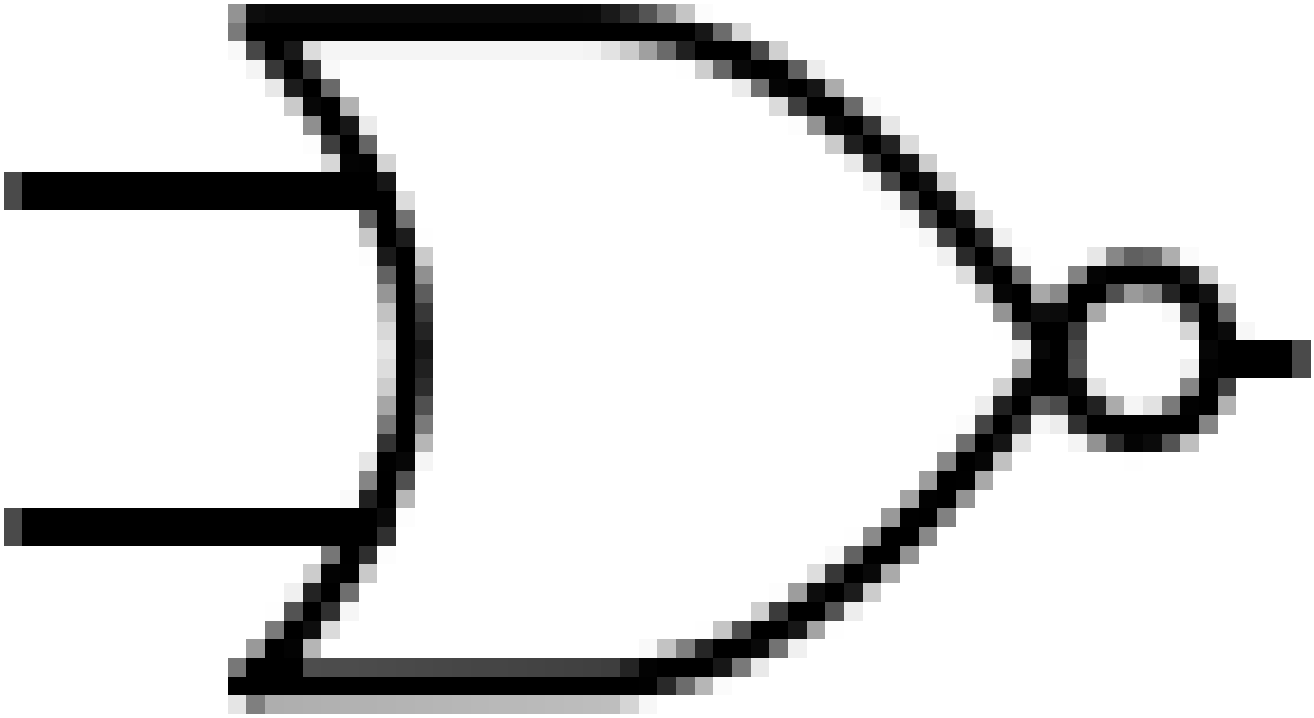
1. Yes

2. No

Correct Answer: no

Question 23:

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



Options:

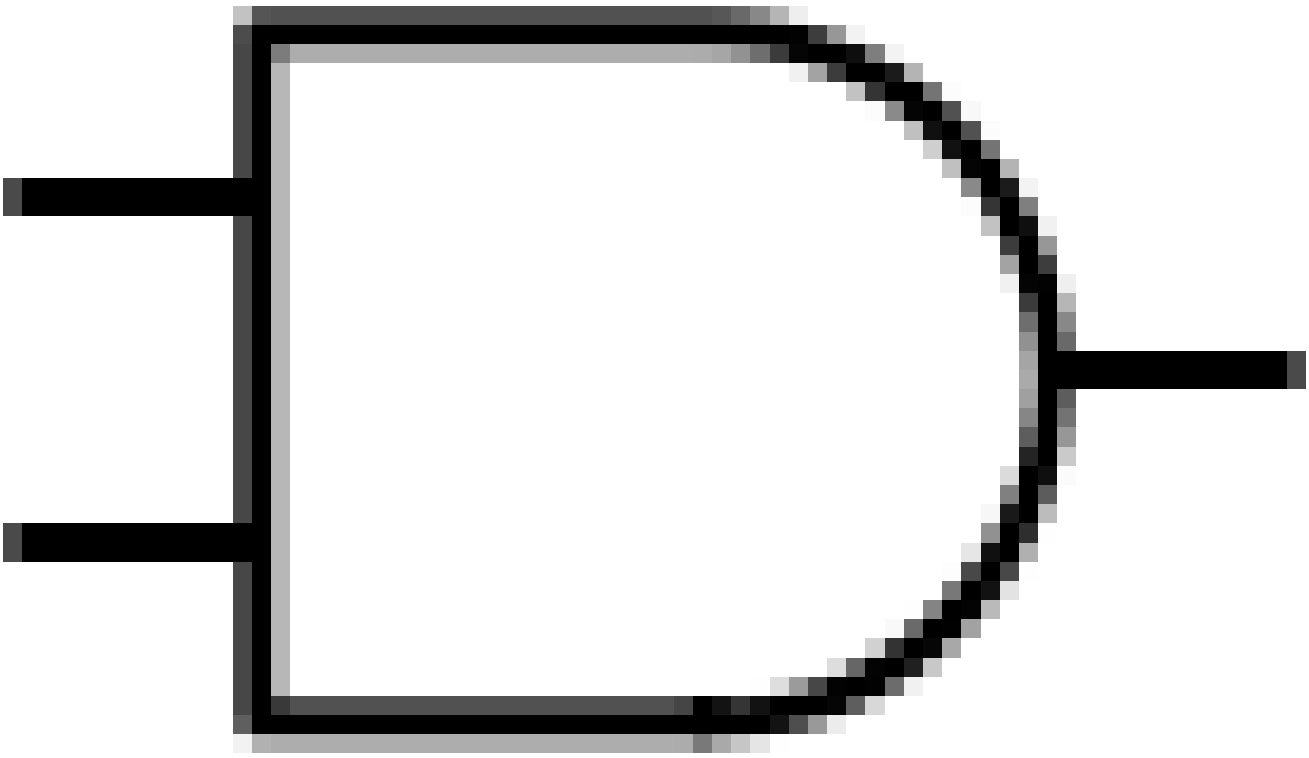
1. 0

2. 1

Correct Answer: 1

Question 24:

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



Options:

1. 1

2. 0

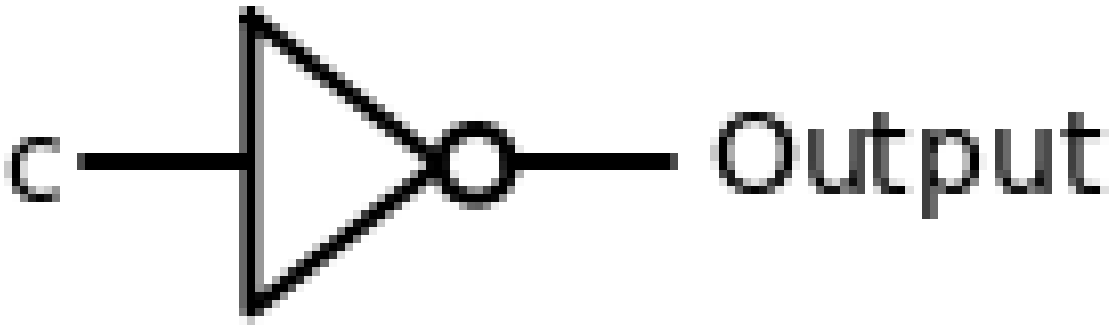
Correct Answer: 0

Question 25:

Are these two circuits equivalent?

Expression 1: (not c)

Expression 2: (c xnor a)



Options:

1. Yes

2. No

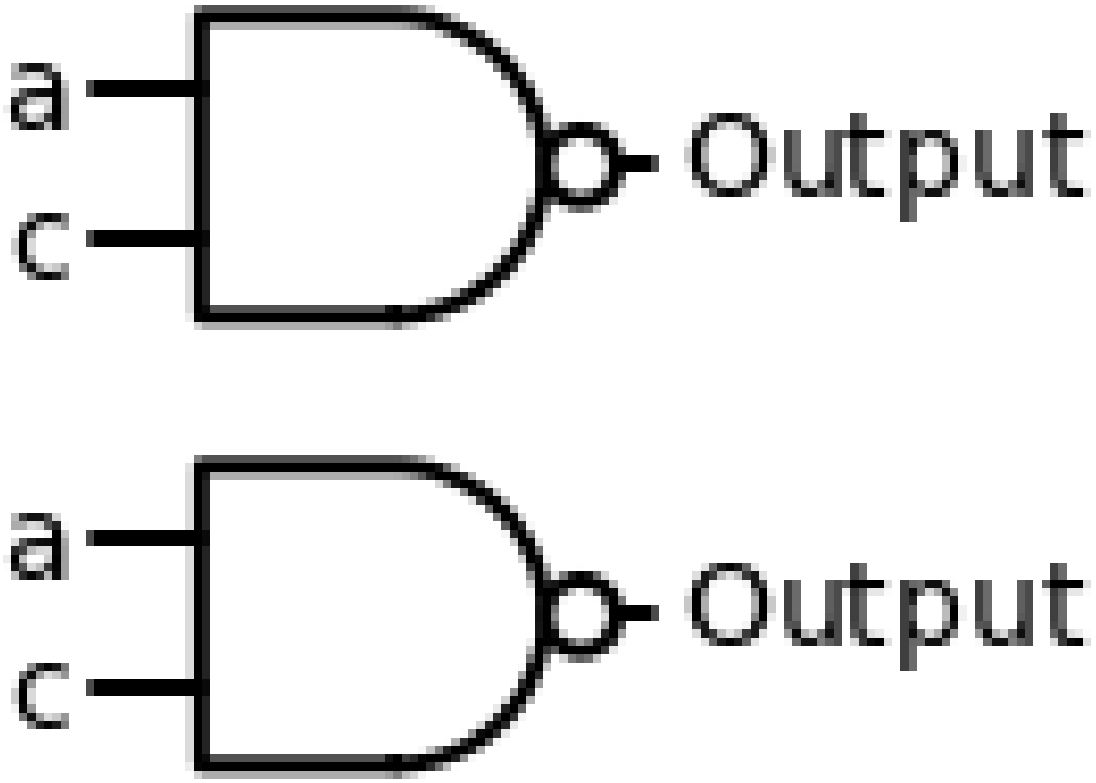
Correct Answer: no

Question 26:

Are these two circuits equivalent?

Expression 1: (a nand c)

Expression 2: (a nand c)



Options:

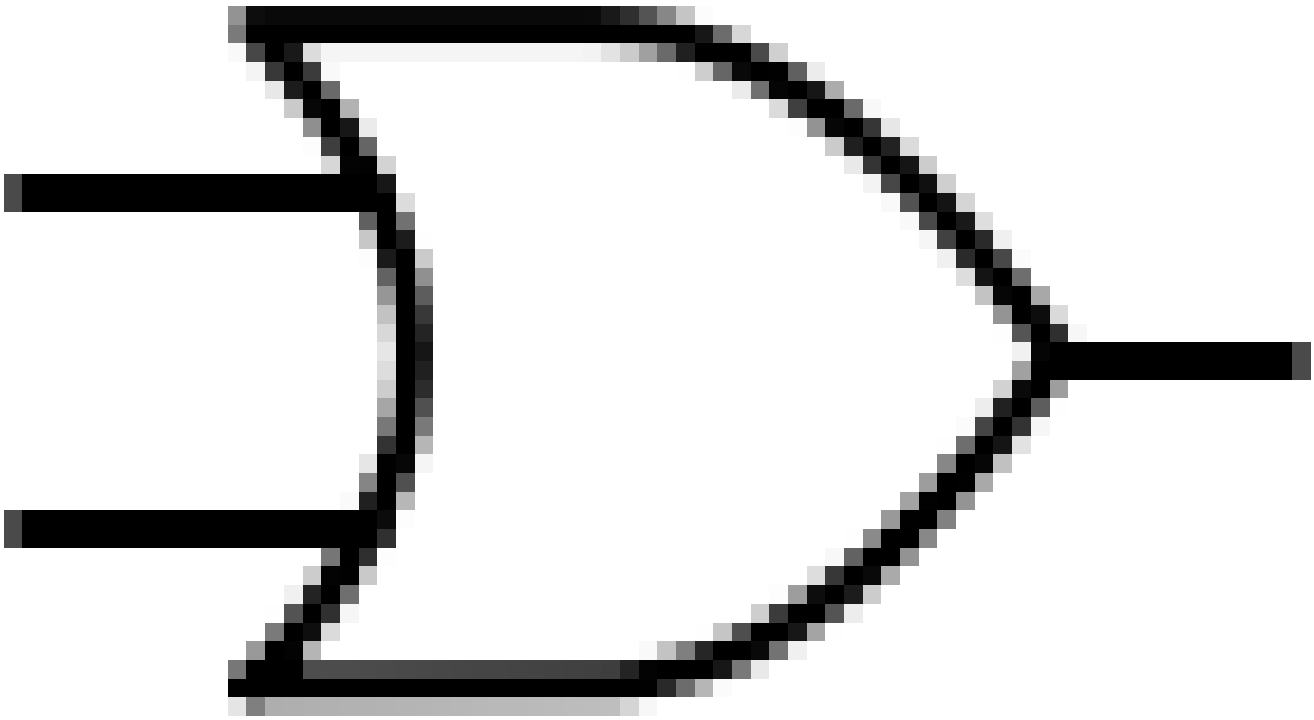
1. Yes

2. No

Correct Answer: yes

Question 27:

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



Options:

1. 0

2. 1

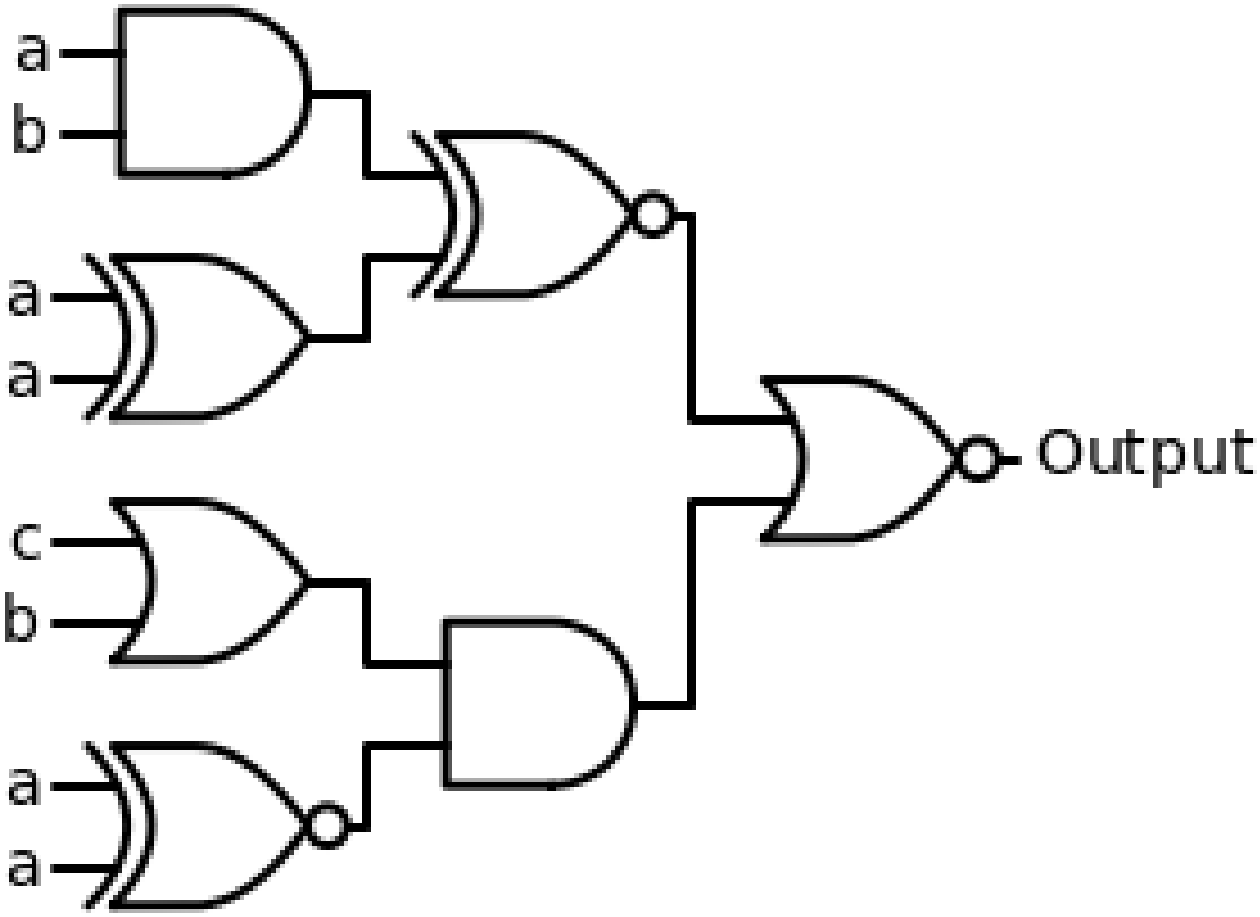
Correct Answer: 1

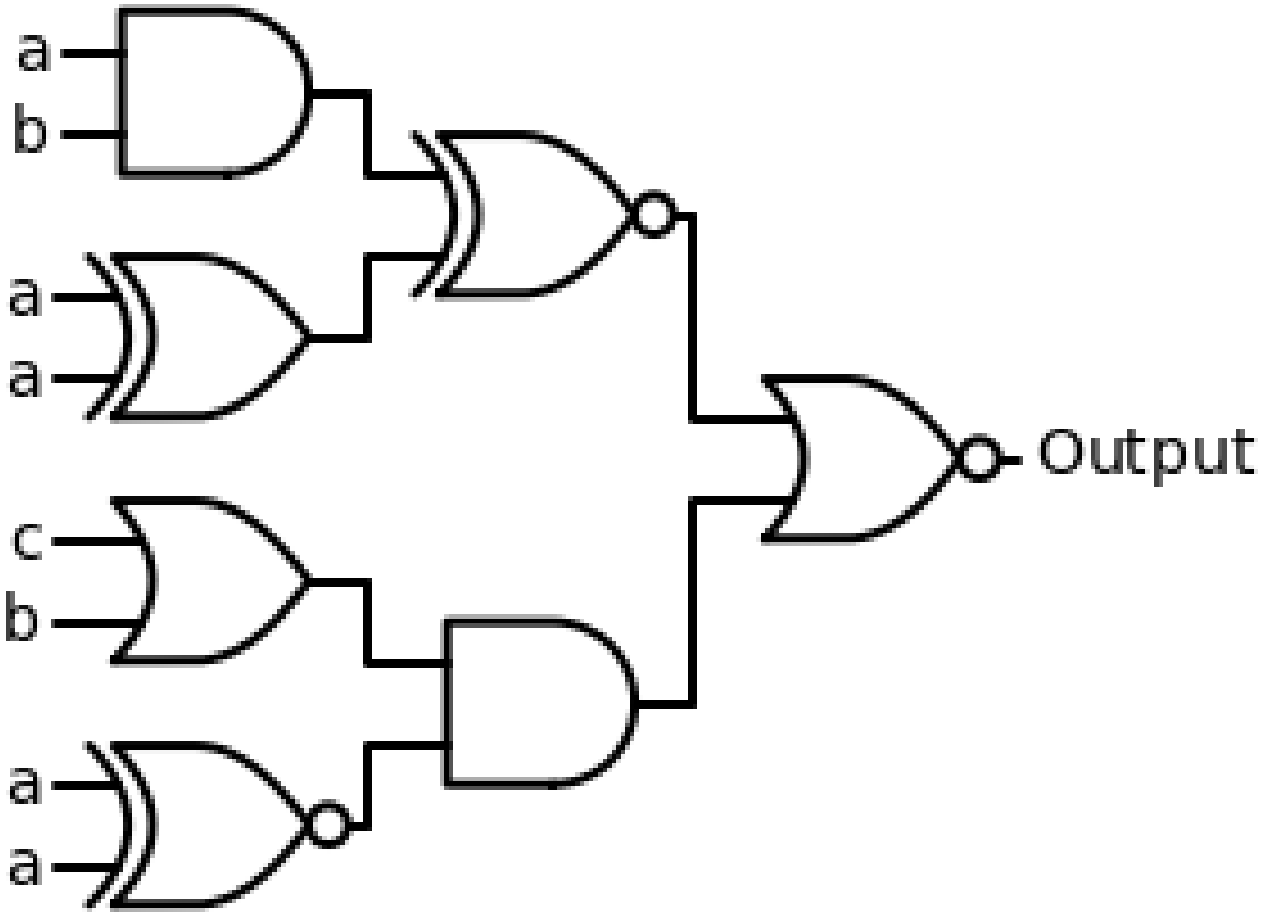
Question 28:

Are these two circuits equivalent?

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

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





Options:

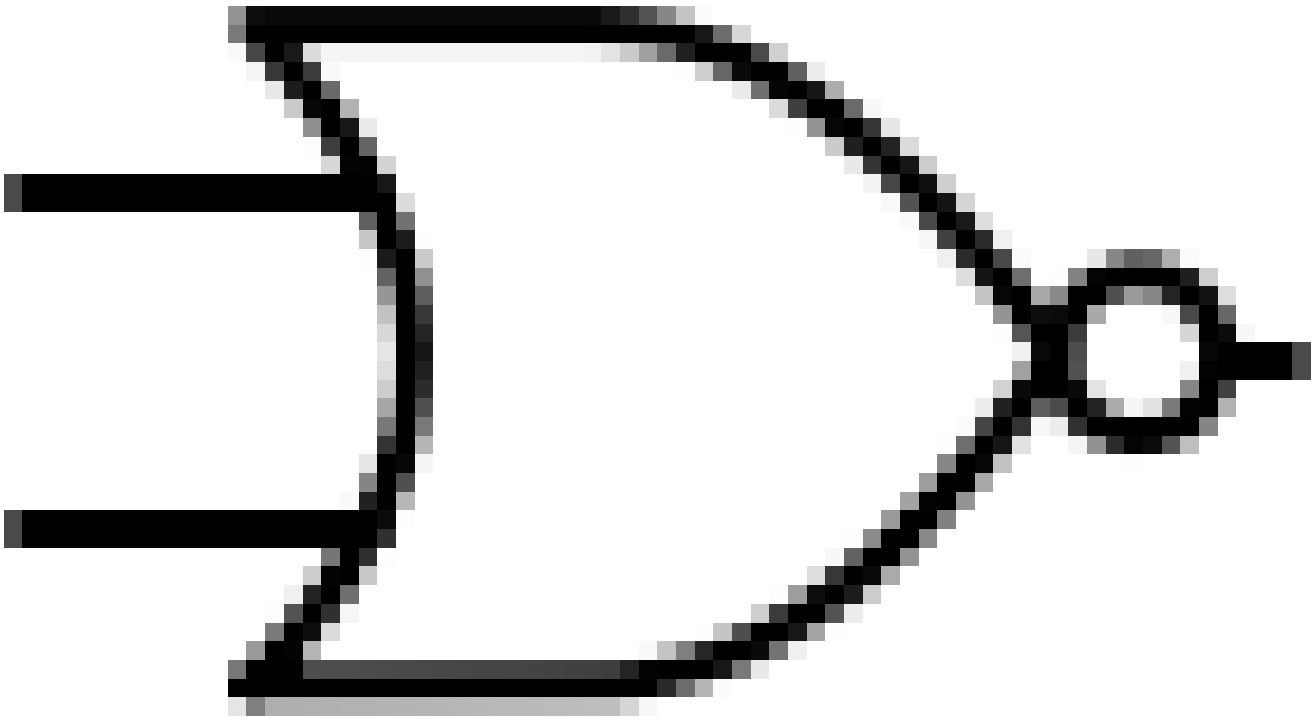
1. Yes

2. No

Correct Answer: yes

Question 29:

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



Options:

1. 1

2. 0

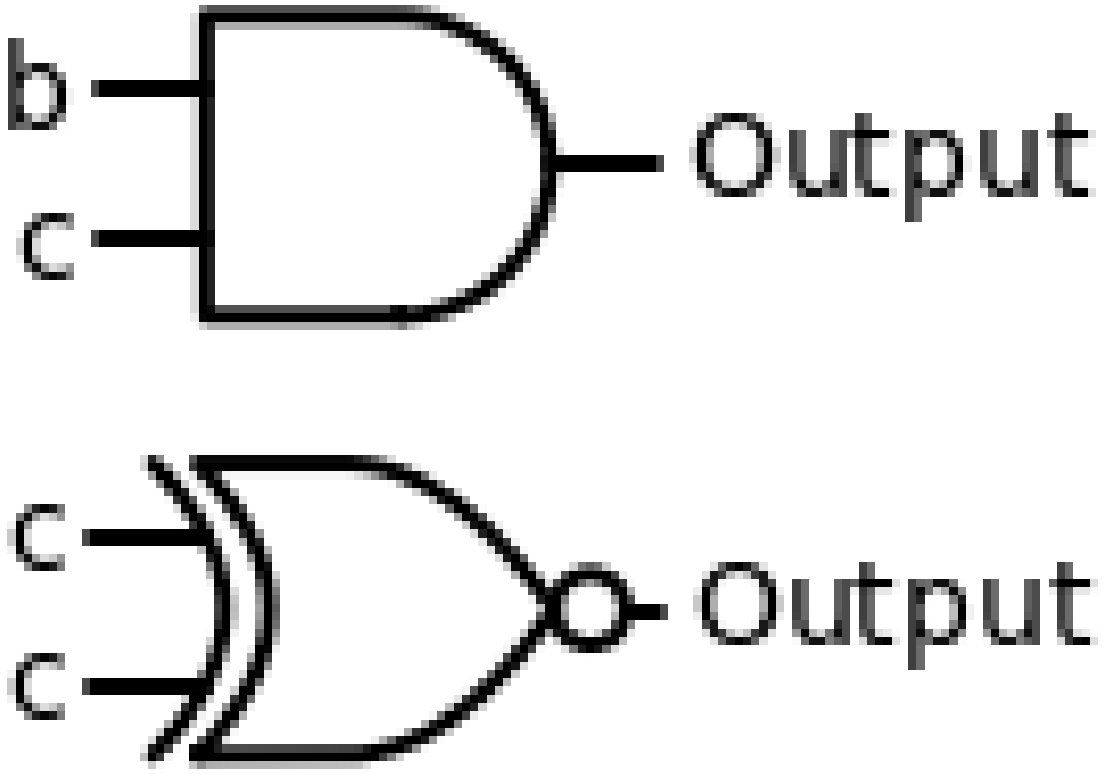
Correct Answer: 0

Question 30:

Are these two circuits equivalent?

Expression 1: (b and c)

Expression 2: (c xnor c)



Options:

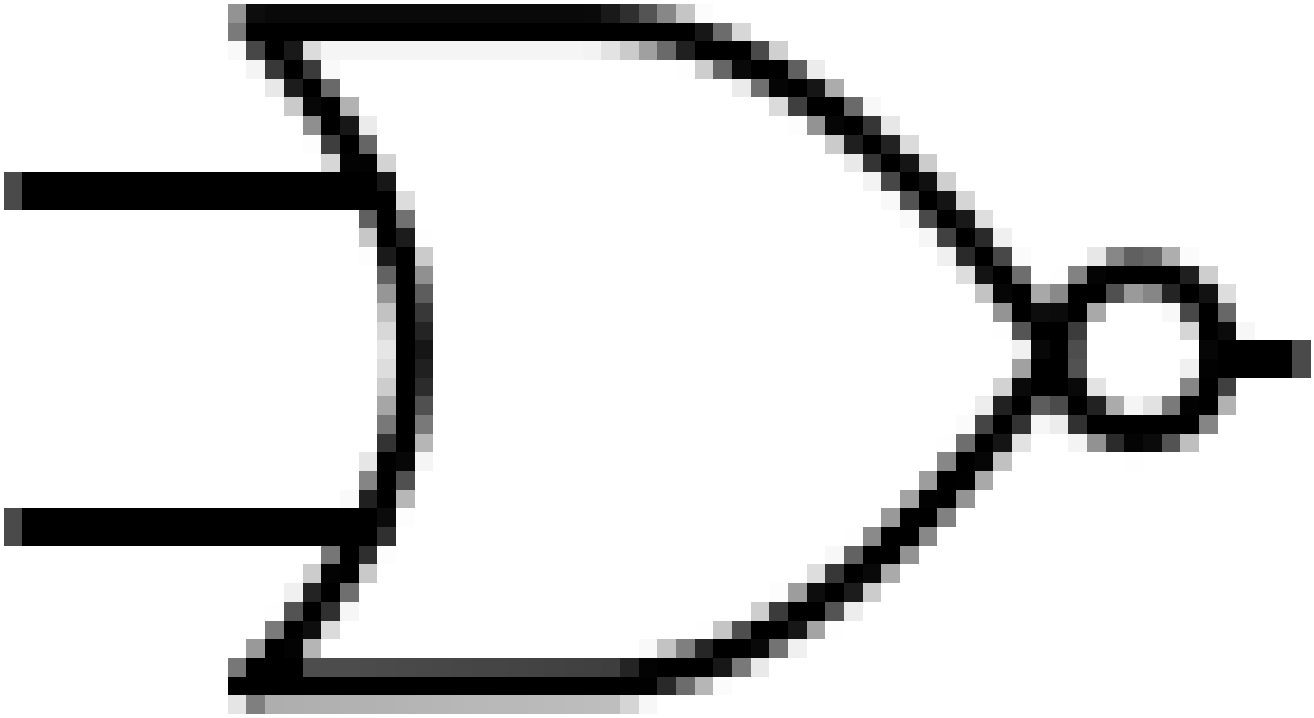
1. Yes

2. No

Correct Answer: no

Question 31:

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



Options:

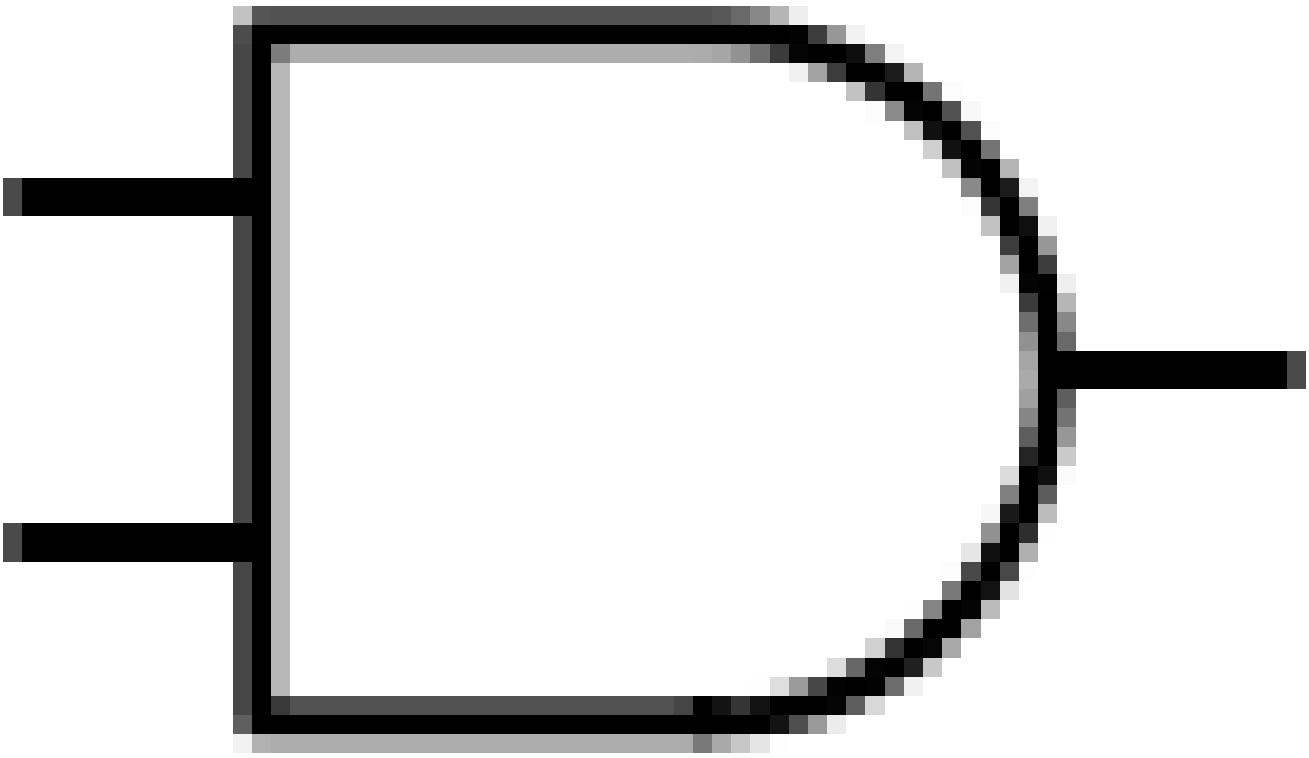
1. 0

2. 1

Correct Answer: 1

Question 32:

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



Options:

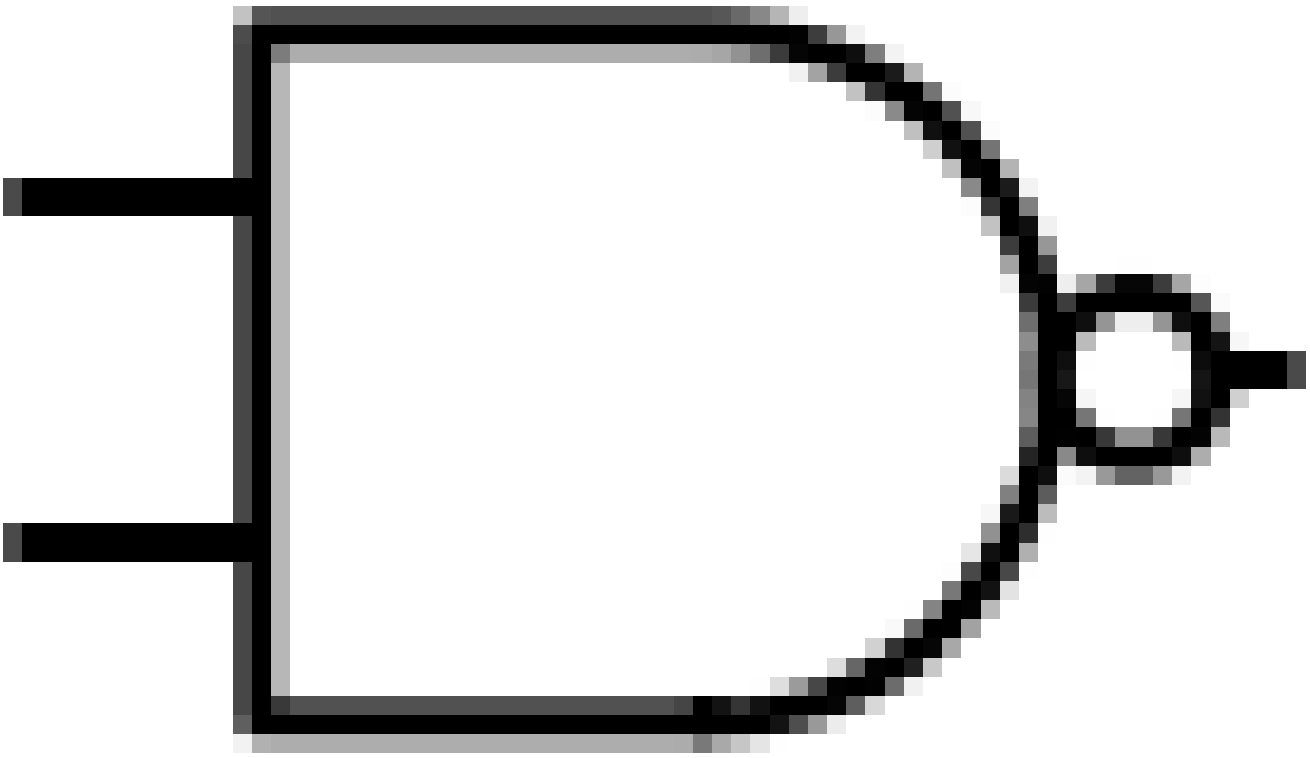
1. 0

2. 1

Correct Answer: 0

Question 33:

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



Options:

1. 1

2. 0

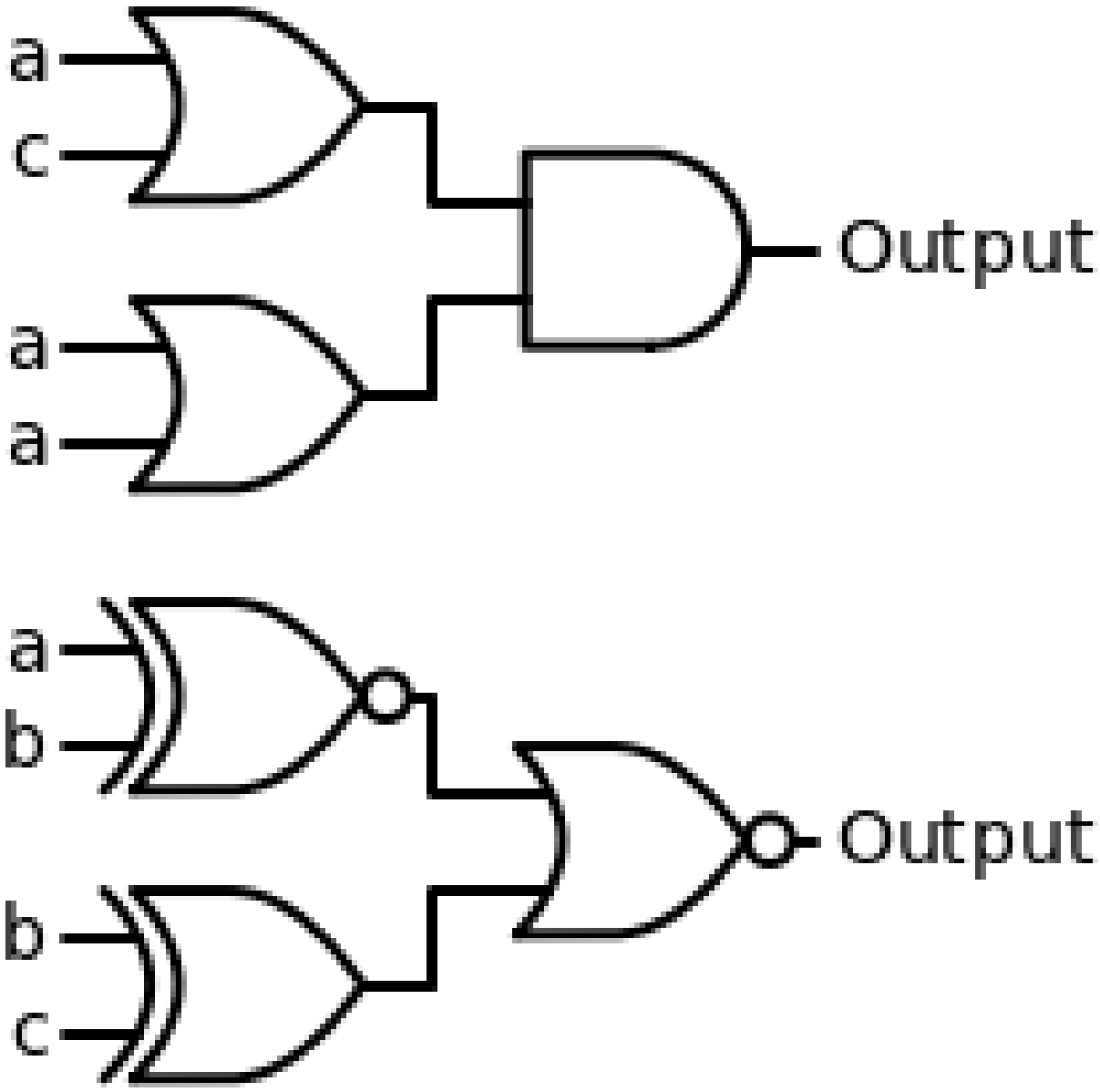
Correct Answer: 1

Question 34:

Are these two circuits equivalent?

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

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



Options:

1. Yes

2. No

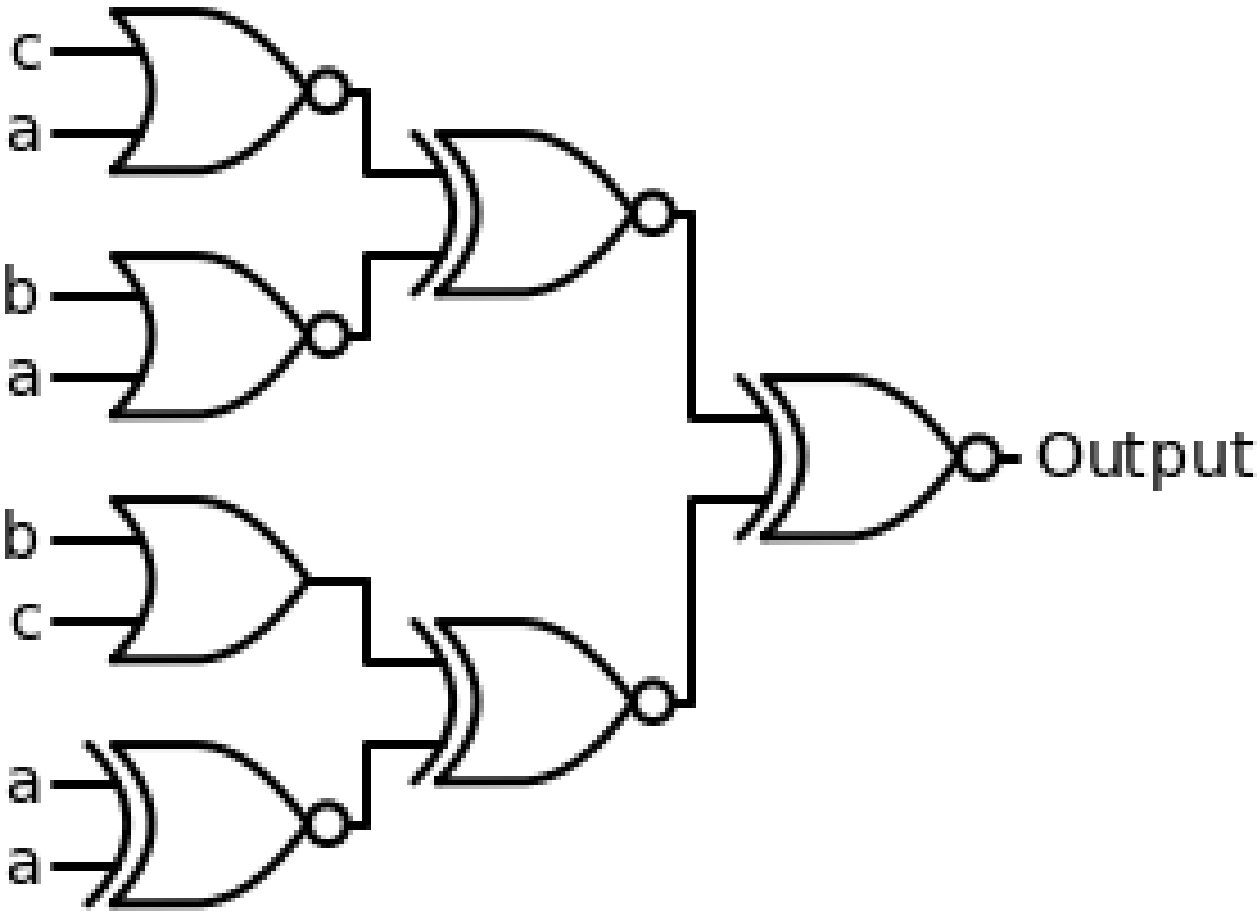
Correct Answer: no

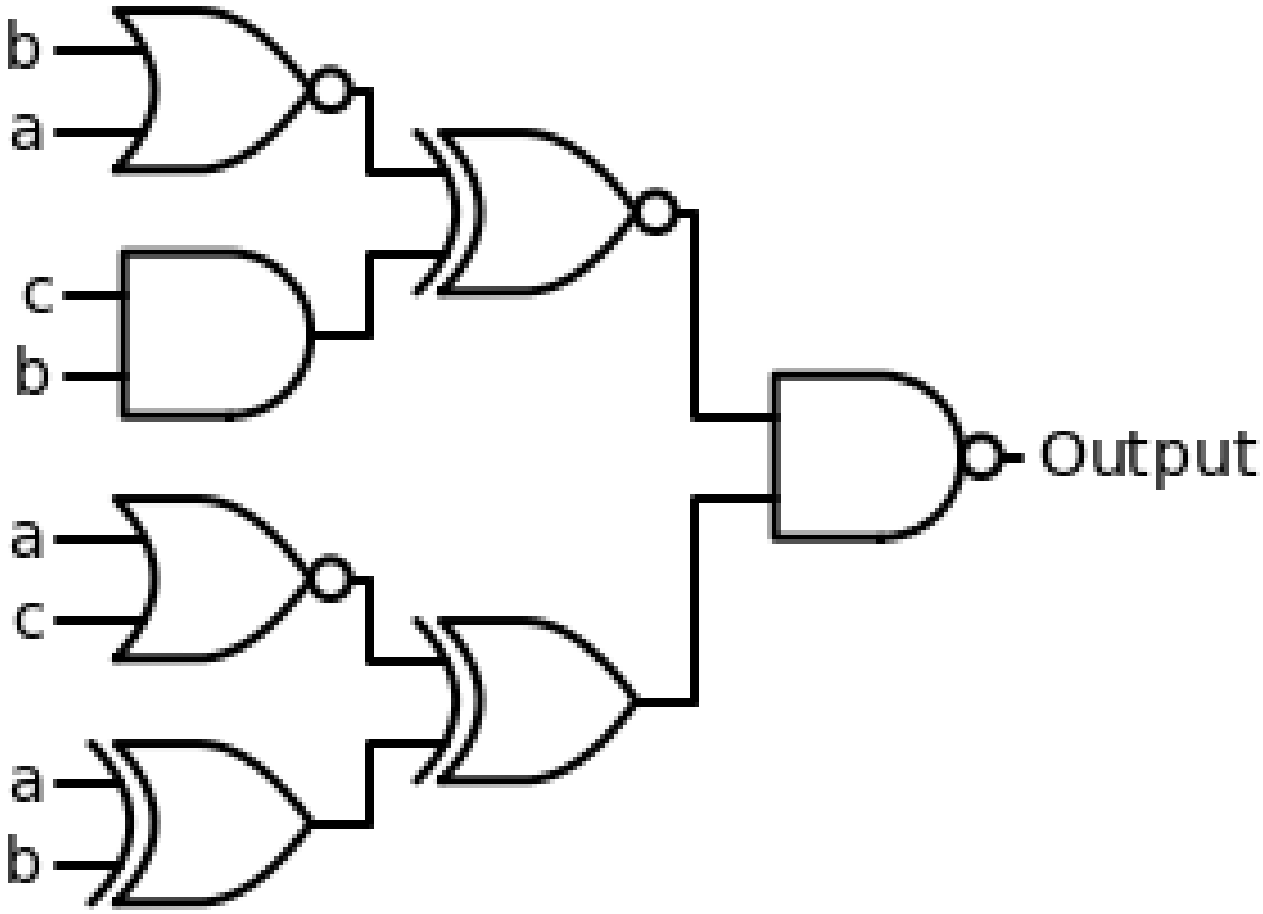
Question 35:

Are these two circuits equivalent?

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

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





Options:

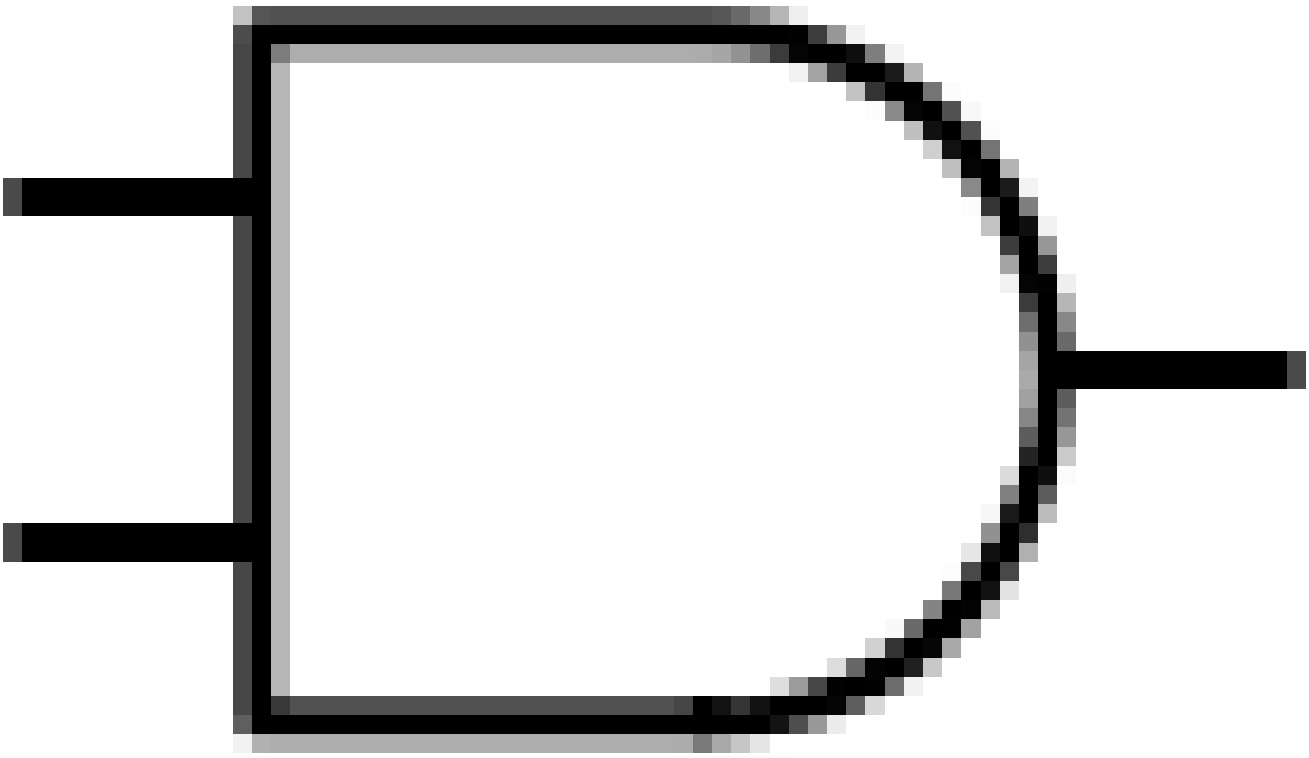
1. Yes

2. No

Correct Answer: no

Question 36:

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



Options:

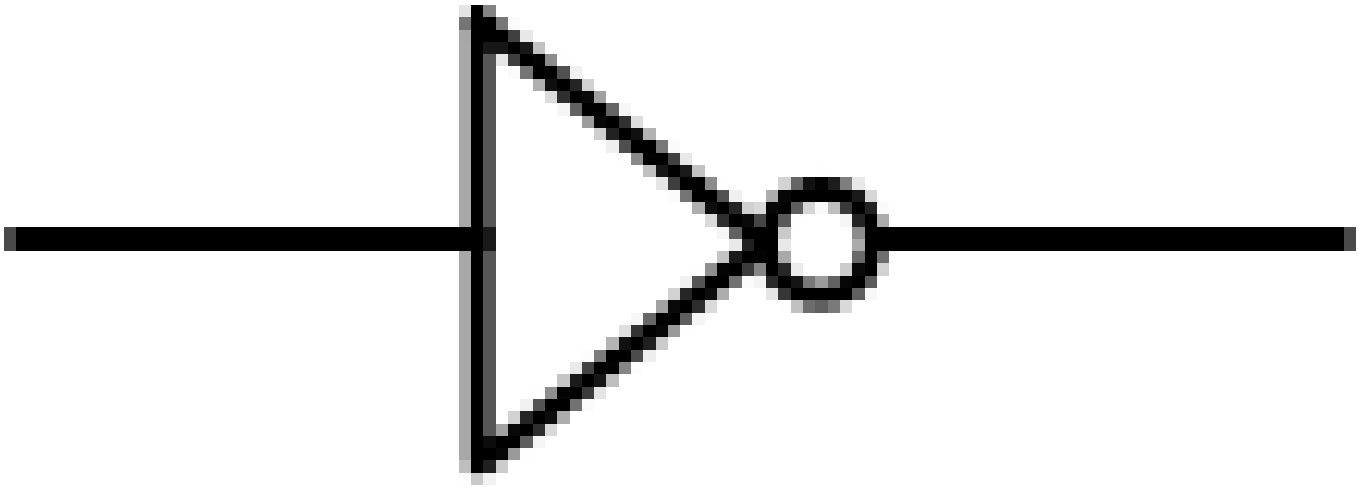
1. 0

2. 1

Correct Answer: 0

Question 37:

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



Options:

1. 0

2. 1

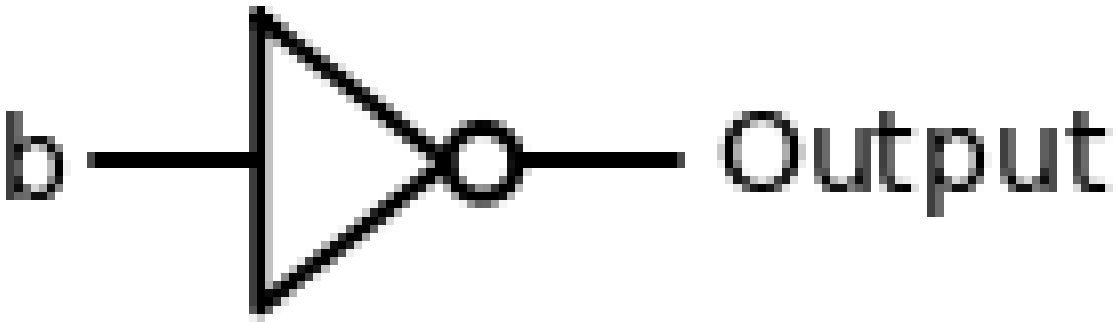
Correct Answer: 1

Question 38:

Are these two circuits equivalent?

Expression 1: (not b)

Expression 2: (c nor b)



Options:

1. Yes

2. No

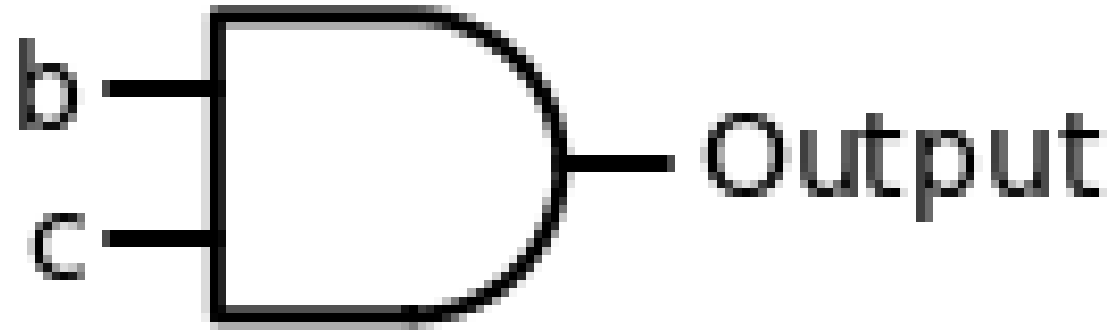
Correct Answer: no

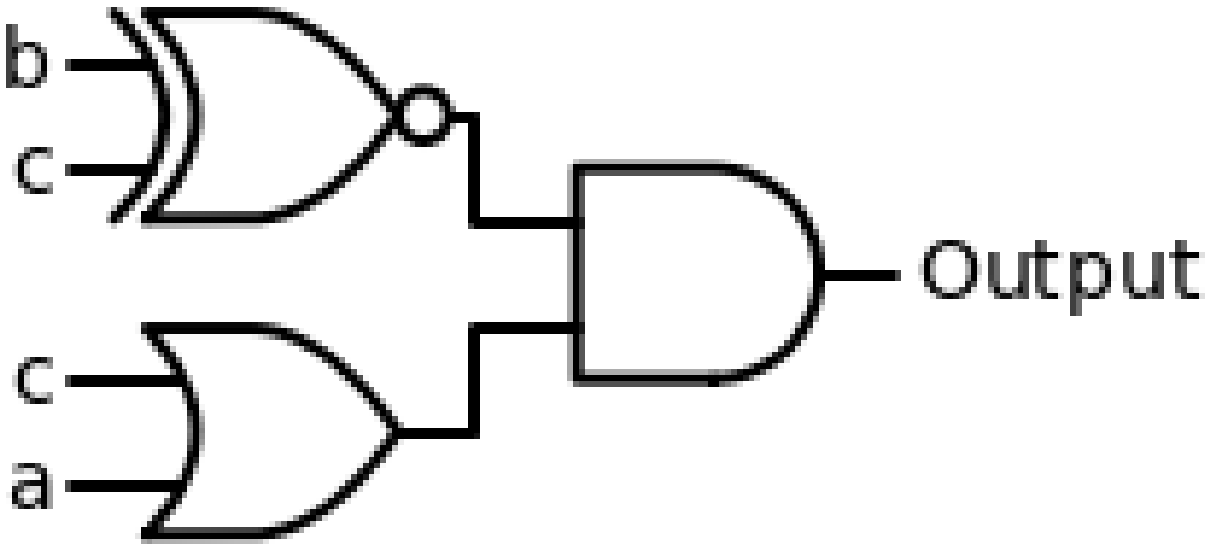
Question 39:

Are these two circuits equivalent?

Expression 1: (b and c)

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





Options:

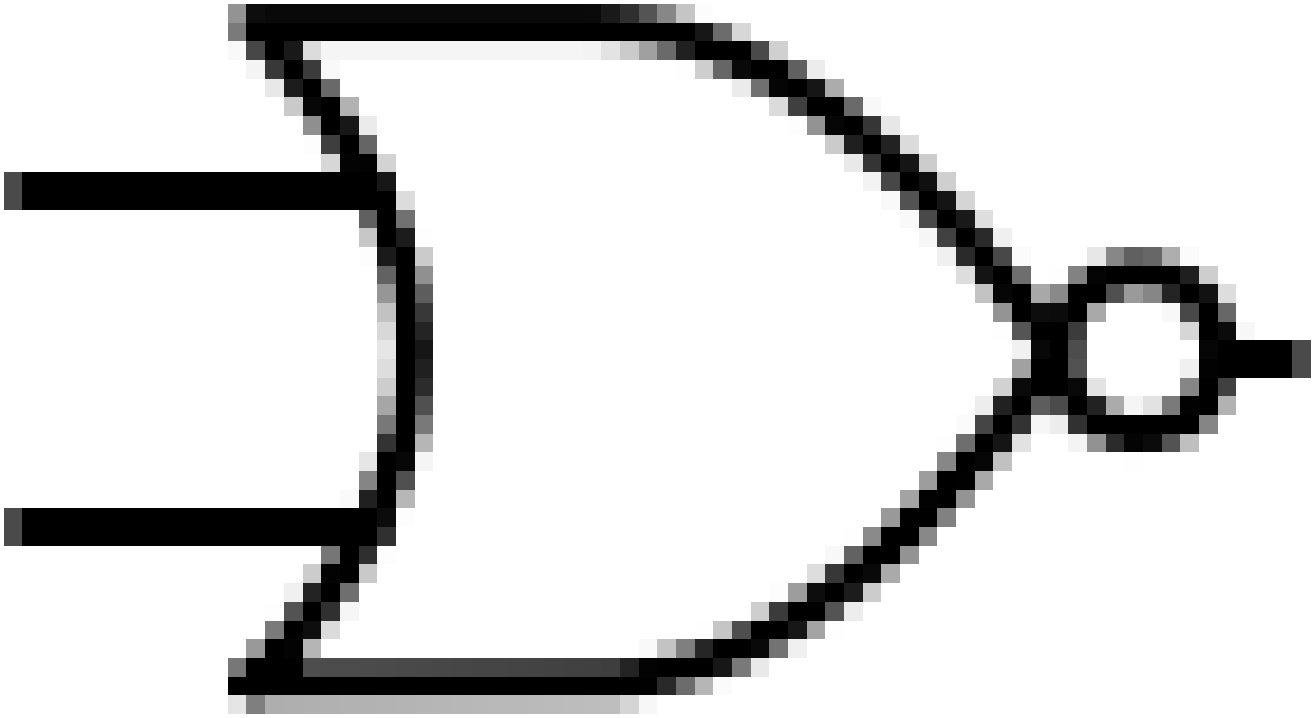
1. Yes

2. No

Correct Answer: no

Question 40:

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



Options:

1. 0

2. 1

Correct Answer: 1