AND : Returns True if **both** conditions are True

OR : Returns True if at least one of the conditions are True

NOT : Inverts the Boolean value. It Returns True if the original condition is False. Returns False if the original condition is True.
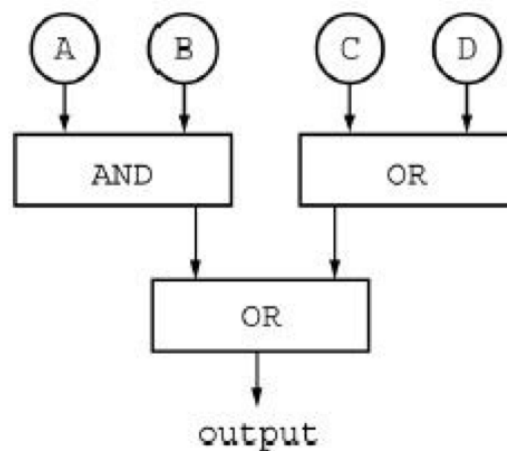
A	B	A AND B
T	T	
T	F	
F	T	
F	F	

A	B	A OR B
T	T	
T	F	
F	T	
F	F	

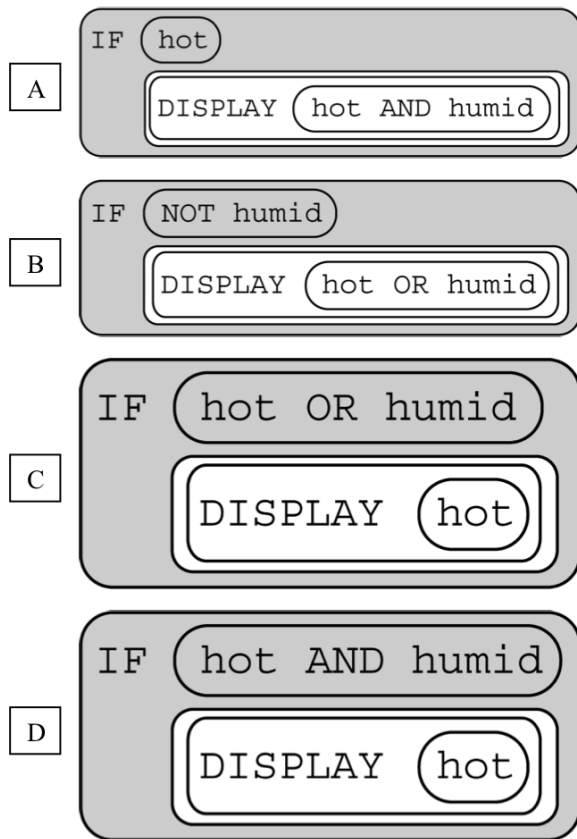| A	NOT A
T	
F	

①

The diagram below shows a circuit composed of three logic gates. Each gate takes two inputs and produces a single output.

For which of the following input values will the circuit have an output of **True** ? (Select all)

(A) A = true, B = false, C = false, D = false

(B) A = true, B = true, C = false, D = false

(C) A = false, B = false, C = true, D = true

(D) A = false, B = false, C = false, D = true

②

A
```
IF (hot)
    DISPLAY (hot AND humid)
```

B
```
IF (NOT humid)
    DISPLAY (hot OR humid)
```

C
```
IF (hot OR humid)
    DISPLAY (hot)
```

D
```
IF (hot AND humid)
    DISPLAY (hot)
```

hot ← true
humid ← true

which will display "true"?
(select all)

③

The following code segment is used to determine whether a customer is eligible for a discount on a movie ticket.

```
val1 ← (NOT (category = "new")) OR (age ≥ 65)
val2 ← (category = "new") AND (age < 12)
```

If `category` is "new" and `age` is 20, what are the values of `val1` and `val2` as a result of executing the code segment?

val1 =

val2 =

If `category` is "new" and `age` is 65, what are the values of `val1` and `val2` as a result of executing the code segment?

val 1 =

val 2 =