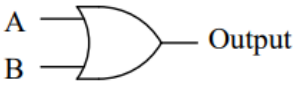
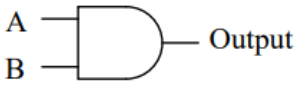
Logic Gates Practice

1 Name each logic gate below and fill out the truth tables.



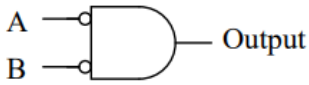
A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

OR Gate



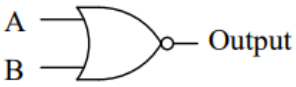
A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1

AND Gate



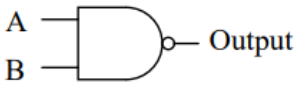
A	B	Output
0	0	1
0	1	1
1	0	1
1	1	0

NAND Gate



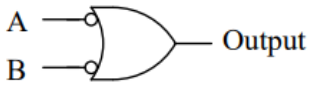
A	B	Output
0	0	1
0	1	0
1	0	0
1	1	0

NOR Gate



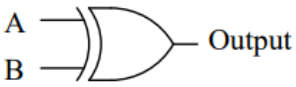
A	B	Output
0	0	1
0	1	1
1	0	1
1	1	0

NAND Gate



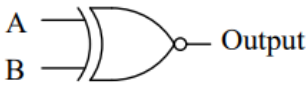
A	B	Output
0	0	1
0	1	0
1	0	0
1	1	0

NOR Gate



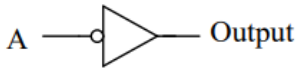
A	B	Output
0	0	0
0	1	1
1	0	1
1	1	0

XOR Gate



A	B	Output
0	0	1
0	1	0
1	0	0
1	1	1

XNOR Gate



A	Output
0	1
1	0

NOT Gate

Note: I will accept either of two different names for the final gate. They are logically equivalent and for our purposes we can abstract away the differences between them.

b. Which of the above logic gates are logically equivalent to one another?

The two NOR gates and the NAND gates are logically equivalent.