Comparison and Logical Operators

1. The following table shows various combinations of the values connected by a comparison operator. Complete the table by writing T or F to indicate whether the result of such a combination is true or false.

S.No	Expression	Result
1.	10 > 9	T
2.	8 >= 9	F
3.	8 == "8"	
4.	5 < 3	
5.	a = 5 and b= 10 a > b	
6.	a = 15 and b= 10 a > b	
7.	a = 15 and b= 10 a > b	
8.	a = 10 and b= 10 a >= b	
9.	a = 5 and b= 10 a != b	
10.	a = 5 and b= '5' a !== b	

2. Write an appropriate conditional statement for following the statements.

   i) Variable x is less than or equal to 10.
   ii) Variable x is not equal to y
   iii) Variable x is greater than y

3. The following truth table shows various combinations of the values true and falseconnected by a logical operator. Complete the table by writing T or F to indicate
   whether the result of such a combination is true or false.

S.No	Expression	Result
1.	false && false	F
2.	false && true	F
3.	true && false	
4.	true && true	
5.	false || false	
6.	false || true	
7.	true || false	
8.	true || true	
9.	!true	
10.	!false	

4. Write an appropriate Boolean expression for the following statements.

   i) Variable x is less than or equal to 10 and less than 50
   ii) Variable x is less than 10 and greater than or equal to 0
   iii) Variable x is less than 20 and greater than or equal to 0 or equal to 30
   iv) Variable speed is within the range 0 to 100
   v) Variable month is within the range 1 and 12

5. If a =15, b = 10, c = 0 , find the values of the expressions in the following table:

Expression	Value
a >= 10 && b < 20	
a == 8 || b > 8	
b == 9 || a <10	
c > 2 && b < 20	
a > 10 && a < 20	
!(a < 20)	
!((a>10) && (b > 15))	
!(a > 10 && c)	
b = 9 || a >10	