What is Boolean ?

Boolean is a type of logic where things are either true or false . think of it like a light switch : it's either on (true) or off (false). There's no in-between.
Where the True means it's correct or happening and False means not correct or happening.

There are total three types of boolean operation:
1. AND: Both things must be true for the result to be true .
   Example : "I will go outside AND it must be sunny."
   Both must happen for me to go outside.

2. OR: At least one thing must be true for the result to be true .
   Example: "I will go to the park OR stay home."
   Either one is fine - I don't need both.

3. NOT: Reverse some things . if it's true, it becomes false; if it's false, it becomes true.
   Example: "I will go outside NOT if it rains."
   If it's raining, I won't go outside (because you reversed it).


The uses of boolean in real life:
 1. Search Engines(like google):
     When you search online, you can use AND and OR to get better results:
         ● "cat AND dog" means we only want results that have both cat and dog.
         ● "cat OR dog" means we want a result that has either cat or dog .
         ● "cat NOT dog" means you want results about "cat" but without "dog" showing up.


 2. Security Doors: Imagine a security system that only lets you in if You're an employee AND You have the right badge. If both are true, you get in.


 3. Shopping Filters:
When you're shopping online, you can filter out items.

         ● "Show products AND in stock" means you only see things that are both available and in stock.
         ● "Show NOT sold-out items" means you don't see anything that's sold out.