



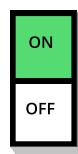
Binary Pixel Art

Welcome to Logicland!

Lex wishes you a warm welcome to Logicland! To kick off your exciting journey on this planet, Lex will first introduce you to the wonders of binary.

What is Binary?

Binary is the **language** computers use to **represent information**. Binary only uses **two digits: 0 and 1**. Just like how we use English to communicate, computers use binary!



1 = True

0 = False

(This is similar to a light bulb switch!)

Specifically, computers use electronic signals that have two states: **1 meaning true** and **0 meaning false**. They assign certain signals as true or false to store and represent information.

Why do Computers use Binary?

Computers use binary because it's **simple** and easy to manage! Binary is a quick way to represent a electronic signal's **on and off states**. Compared to systems like decimals (ten digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9), it makes more sense for computers to communicate using binary (two digits: 0 and 1)!

Put your Detective Caps On!

Lex recently received several encoded paintings from his friend Alon and needs your help decoding them! Using colored pencils, convert the binary code into blank pixels and colored pixels in order to reveal the pictures. Use **0 to represent a blank pixel** and **1 to represent a colored pixel**.



blank pixel



colored pixel



What are pixels?

Pixels are super tiny squares that come together to display all sorts of images on a digital screens!



Lex's Encoded Paintings

0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	1	0	0	
0	1	1	1	0	1	1	1	0	
0	1	1	1	1	1	1	1	0	
0	1	1	1	1	1	1	1	0	
0	0	1	1	1	1	1	0	0	
0	0	0	1	1	1	0	0	0	
0	0	0	0	1	0	0	0	0	
0	0	0	0	0	0	0	0	0	

1	1	1	1	1	1	1	1	1	1
1	1	1	0	0	0	1	1	1	
1	1	0	0	0	0	0	1	1	
1	0	0	0	0	0	0	0	1	
1	1	0	0	0	0	0	1	1	
1	1	0	0	0	0	0	1	1	
1	1	0	0	1	0	0	1	1	
1	1	0	0	1	0	0	1	1	
1	1	0	0	1	0	0	1	1	

1	1	1	1	0	1	1	1	1	
1	1	1	0	0	0	1	1	1	
1	1	0	0	0	0	0	1	1	
1	0	0	0	0	0	0	0	1	
1	1	0	0	0	0	0	1	1	
1	1	0	0	0	0	0	1	1	
1	1	0	0	1	0	0	1	1	
1	1	0	0	1	0	0	1	1	
1	1	0	0	1	0	0	1	1	

