

BFB: Best Friend Bot



Design a best friend robot, then arrange a friendship bracelet with binary code.

Appearance

What would your Best Friend Bot look like? Draw it in the box below.

A large, empty rectangular box with rounded corners and a black border, intended for drawing the appearance of the Best Friend Bot.

BFB Qualities

Write how you would introduce your Best Friend Bot to your friends or your class:

Four horizontal lines for writing, intended for describing how to introduce the Best Friend Bot to friends or class.

What is Binary Code?

A binary code is a way that a computer represents text or other data, using a two-symbol system. In this case, the two symbols are 0 and 1. Each digit is known as a "**bit**," which is short for Binary Information Digit. These form groups of eight called a "**byte**" to represent letters of the alphabet. There are 256 possible combinations of 0s and 1s in a byte.

A gigabyte (GB) is one billion bytes. Maybe you've heard of a terabyte (TB) hard drive? That's one trillion bytes!

Binary Letter Chart

| | | | |
|----------|-----------|----------|-----------|
| A | 0100 0001 | N | 0100 1110 |
| B | 0100 0010 | O | 0100 1111 |
| C | 0100 0011 | P | 0101 0000 |
| D | 0100 0100 | Q | 0101 0001 |
| E | 0100 0101 | R | 0101 0010 |
| F | 0100 0110 | S | 0101 0011 |
| G | 0100 0111 | T | 0101 0100 |
| H | 0100 1000 | U | 0101 0101 |
| I | 0100 1001 | V | 0101 0110 |
| J | 0100 1010 | W | 0101 0111 |
| K | 0100 1011 | X | 0101 1000 |
| L | 0100 1100 | Y | 0101 1001 |
| M | 0100 1101 | Z | 0101 1010 |

Binary Code Friendship Bracelet

What are some of the values or qualities that make a good friend?

Pick your favorite friendship value and use binary code to make some BFB bracelets!

Example:

Example values: KIND, LOVE, HONESTY, TRUST, BRAVE

Selected Word: KIND



| Letters | Binary Code |
|---------|-------------|
| K | 0100 1011 |
| I | 0100 1001 |
| N | 0100 1110 |
| D | 0100 0100 |


Your word: _____


| Letters | Binary Code |
|---------|-------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |


Bracelet Diagram


Pick two colors to represent "0" and "1," then color in the beads below to match the binary code of your friendship value word you wrote above.


 = **0**  = **1**


Letter #1 


Letter #2 


Letter #3 

Letter #4 

Letter #5 

Letter #6 

Letter #7 

Letter #8 

Extension

Share your bracelet with a friend and see if they can decode your friendship quality. What other qualities can you express in binary code?