

Secret messages in binary

Computers store each letter as a number, and each number as 8 bits. The capital letters below use ASCII codes 65 to 90. A small letter is the capital plus 32, so in binary it has an extra 1 in the 32 place: A is 01000001 and a is 01100001.

A	01000001	B	01000010	C	01000011	D	01000100
E	01000101	F	01000110	G	01000111	H	01001000
I	01001001	J	01001010	K	01001011	L	01001100
M	01001101	N	01001110	O	01001111	P	01010000
Q	01010001	R	01010010	S	01010011	T	01010100
U	01010101	V	01010110	W	01010111	X	01011000
Y	01011001	Z	01011010				

A Decode the messages

1. 01001000 01001001

Message: _____

2. 01000011 01001111 01000100 01000101

Message: _____

3. 01001000 01100101 01101100 01101100 01101111

Message: _____

B Encode in binary

1. A _____

2. Z _____

3. a _____

4. OK _____

C Your turn

Write your first name in binary, then swap with a partner and decode each other's names.

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Answer key

A	01000001	B	01000010	C	01000011	D	01000100
E	01000101	F	01000110	G	01000111	H	01001000
I	01001001	J	01001010	K	01001011	L	01001100
M	01001101	N	01001110	O	01001111	P	01010000
Q	01010001	R	01010010	S	01010011	T	01010100
U	01010101	V	01010110	W	01010111	X	01011000
Y	01011001	Z	01011010				

A Decode the messages

1. 01001000 01001001

Message: HI

2. 01000011 01001111 01000100 01000101

Message: CODE

3. 01001000 01100101 01101100 01101100 01101111

Message: Hello

B Encode in binary

1. A 01000001

2. Z 01011010

3. a 01100001

4. OK 01001111 01001011

C Your turn

Answers will vary. Check each byte against the table: every capital letter starts with 010 and every small letter with 011.