

Decoding Binary Music

Decode the secret messages in the music!

Part 1: Fill in the table

Decimal Number	Binary Number				
	2 ⁴	2 ³	2 ²	2 ¹	2 ⁰
	16	8	4	2	1
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0

Part 2: Decode the messages

1) Go to the following website:

<https://estemestemsquad.weebly.com/computer-science.html>

2) Click song (example: "Song 1") to decode

3) Transcribe song in chunks of 5 notes

High note ⇒ 1

Low note ⇒ 0

Example: high-low-high-high-low ⇒ 10110

4) Convert binary numbers to decimal numbers using your table (on the left)

Example: 10110 ⇒ 22

5) Decode decimal number using key (below)

Example: 22 ⇒ V

6) Write down the secret messages!

Decoding Key

0	1	2	3	4	5	6	7	8
space	A	B	C	D	E	F	G	H
9	10	11	12	13	14	15	16	17
I	J	K	L	M	N	O	P	Q
18	19	20	21	22	23	24	25	26
R	S	T	U	V	W	X	Y	Z

Binary joke: There are 10 kinds of people in the world: those who understand binary and those who don't.

OVERALL KEY:

BINARY	00000	00001	00010	00011	00100	00101	00110	00111	01000	01001	01010	01011	01100	01101
DECIMAL	0	1	2	3	4	5	6	7	8	9	10	11	12	13
LETTER	SPACE	A	B	C	D	E	F	G	H	I	J	K	L	M

BINARY	01110	01111	10000	10001	10010	10011	10100	10101	10110	10111	11000	11001	11010
DECIMAL	14	15	16	17	18	19	20	21	22	23	24	25	26
LETTER	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Song 1:

01010	00001	11010	11010	11001
J	A	Z	Z	Y

Song 2:

00111	01111	01111	00100	00000	10111	01111	10010	01011
G	O	O	D		W	O	R	K

Song 3:

01000	00101	01100	01100	01111	00000	10111	01111	10010	01100	00100
H	E	L	L	O		W	O	R	L	D

Song 4:

00111	10010	00101	00101	01110	00000	00101	00111	00111	10011
G	R	E	E	N		E	G	G	S

Song 5:

01000	00101	01100	01100	01111	00000	00110	10010	01111	01101	00000	01110	11010
H	E	L	L	O		F	R	O	M		N	Z

Song 6:

00010	01001	01110	00001	10010	11001	00000	00110	01111	10010	01101	00000	01101	00101	00001	01110	10011
B	I	N	A	R	Y		F	O	R	M		M	E	A	N	S

00000	10011	01111	01101	00101	10100	01000	010001	01110	00111	00000	00100	01001	00110	00110	00101
	S	O	M	E	T	H	I	N	G		D	I	F	F	E

10010	00101	01110	10100	00000	10100	01111	00000	01101	10101	10011	01001	00011	01001	00001	01110	10011
R	E	N	T		T	O		M	U	S	I	C	I	A	N	S