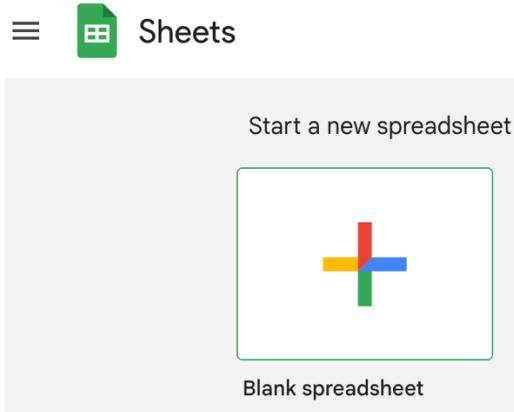


ENR145 Google sheets cheat sheet for Hamming

Step 1: start a new spreadsheet



Step 2: fill 11 binary number into cells

The image shows a screenshot of a Google Sheets spreadsheet. On the left, there is a column header labeled "A". The rows are numbered from 1 to 11. The first few cells contain binary digits: row 1 has "1", row 2 has "0", row 3 has "1", row 4 has "0", row 5 has "1", row 6 has "1", row 7 has "1", row 8 has "1", row 9 has "1", row 10 has "0", and row 11 has "0". A large black brace is placed on the right side of the table, spanning all 11 rows. To the right of the brace, the text "This will be your input data" is written.

	A
1	1
2	0
3	1
4	0
5	1
6	1
7	1
8	1
9	1
10	0
11	0

Step 3: Find a 4x4 spot, create your extended hamming code

	A	B	C	D	E	F	G	H	I	J
1	1									
2	0									
3	1									
4	0									
5	1									
6	1									
7	1									
8	1									
9	1									
10	0									
11	0									
12										

1. DoubleClick any cell (I7 in this case)
 2. Type "="
 3. Then left click the cell (A1 in this case), press "Enter"
 4. ... and assign A1's value over there

	A	B	C	D	E	F	G	H	I	J
1	1									
2	0									
3	1									
4	0									
5	1									
6	1									
7	1									
8	1									
9	1									
10	0									
11	0									
12										

Magic!

Step 4: figure out how to do Boolean operation in spread sheet

=XOR(...)

XOR(logical_expression1,
[logical_expression2, ...])

XOR is XOR

		A XOR B
A	B	
1	1	? =xor(E17,F17)
1	1	FALSE

Instead of 0 and 1, you will get FALSE and True

A	B	A XOR B	A AND B
1	1	FALSE	? =AND(E17,F17)

AND is AND

A	B	A XOR B	A AND B
1	1	FALSE	TRUE

Instead of 0 and 1, you will get FALSE and True

But you can turn Boolean into 0 and 1 with the following trick: *1

A XOR B	A AND B	Turn FALSE to 0	Turn FALSE to 0
FALSE	TRUE	? =G17*1	0

A AND B	Turn FALSE to 0	Trun TRUE to 0	Trun TRUE to 0
TRUE		? =H17*1	1

For more detailed support, check:

https://support.google.com/docs/topic/9054603?hl=en&ref_topic=1382883&sjid=16522112893785578103-NC