

H/V Basis

$|0\rangle$
 $|1\rangle$



$|+\rangle$
 $|-\rangle$

$+/ -$
 $: 0$
 $: 1$



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Bob — also tosses a coin.



H/V



Alice

	1	0110	0	1	1	0	0	0
Basis	\oplus	\otimes	\otimes	\oplus	\otimes	\oplus	\oplus	\otimes

Bob	\oplus	\oplus	\otimes	\otimes	\oplus	\otimes	\oplus	\otimes
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Bit Received	1	11 → x	01	10x	1	0	01	01
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↑ ↑
 Probabilistically correct,

Alice

	1	0	0	1	1	0	0	0
Basis	\oplus	\otimes	\otimes	\oplus	\otimes	\oplus	\oplus	\otimes

Eve

	\oplus	\oplus	\otimes	\otimes	\otimes	\oplus	\otimes	\oplus
	✓	0?	0?	0	✓	0?	0?	0?
	\oplus	\oplus	\otimes	\otimes	\oplus	\otimes	\oplus	\otimes
	✓	0	0?	0	0	1	1	1

Bob

Alice

$a = 0$: Computational basis

$a = 1$: Diagonal Basis

Bob

$$\begin{array}{l} 2 \\ |0\rangle : |0\rangle \\ \frac{|0\rangle + |1\rangle}{\sqrt{2}} : |+\rangle \end{array}$$