

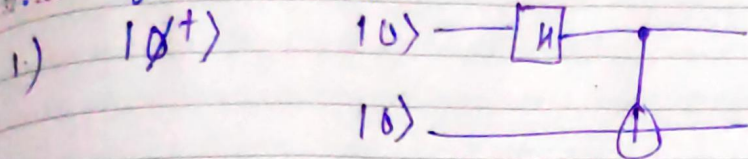
2017

Wk 32 • 220 - 145

02. Bonus

AUGUST
TUESDAY

08



a) Calculate $|x^+\rangle$ without using matrices

$$H|0\rangle = \frac{|0\rangle + |1\rangle}{\sqrt{2}} \Rightarrow \frac{1}{\sqrt{2}} (|0\rangle + |1\rangle)$$

CNOT gate ~ if the first qubit is $|0\rangle$, nothing changes, if it is $|1\rangle$, it flips the second.

$$\frac{1}{2} [|00\rangle + |11\rangle]$$

b) write the resulting state as a tensor product

Not every pure vector can be written as a tensor product.

2017 SEPTEMBER

Mon		4	11	18	25
Tue		5	12	19	26
Wed		6	13	20	27
Thu		7	14	21	28
Fri	1	8	15	22	29
Sat	2	9	16	23	30
Sun	3	10	17	24	