
None of the problems on this assignment are graded. Instead, after completing it, please fill out the associated Google form. That form is the only graded component.

Exercise 1. *Consider 2 bits.* $|1\rangle$ *and* $|1\rangle$*. Compute, as a column vector the kronecker product* $|1\rangle \otimes |1\rangle$*.*

Exercise 2. *Write out the matrix for the AND gate. Apply the AND gate to the bits in the last problem. The result of applying the AND gate to 2 bits should be 1 bit, or a* 2×1 *vector. Do your best to explain why the answer you get with the matrix multiplication is correct.*

Exercise 3. *Complete the colab notebook associated with this problem set on google classroom.*