

Test 2: Entanglement (7/19/2021)

1. Suppose you have 5 qubits in the state $|\psi\rangle = \frac{1}{\sqrt{2}}|01010\rangle + \frac{1}{\sqrt{2}}|10101\rangle$. Is state $|\psi\rangle$ entangled? Why?
2. Write a program to generate $|\psi\rangle$, run it 1024 times, and come up with an example how to use it in quantum communication.