Types of Qubits

- **Specifications.** For each choice of quantum hardware, provide a one sentence description of how the qubit works, as well as one advantage and one disadvantage.
- **Description.** Before we get some hands on experience with quantum hardware, we should spend some time reading up on the topic. On the first day, we were introduced to photonic quantum computing through our tour at the Ultrafast Quantum Control labratory. However, this is only one of many possible hardware models for quantum computing. For example, the IBM Quantum Platform makes exclusive use of a different hardware model known as superconducting quantum computing. Your objective in this activity is to learn about three different types of quantum hardware from the following list.
  - Superconducting Qubits
  - Trapped Ions Qubits
  - Photonic Qubits
  - Quantum Dots And Semiconductor Qubits
  - Spin Qubits
  - Topological Quantum Computing
  - Adiabatic Quantum Computing

  You can learn more about each option from this article. You should start by reading the section *Overview Of Quantum Computing Hardware*. Note that both topological quantum computing and adiabatic quantum computing are challenging topics, and may require some additional reading.
- **Submission.** A list describing three different types of quantum hardware.