Qubit

Let us first look at a classical bit: a classical bit can in two states, it can be either zero or it can be one. A quantum bit or qubit however can be sort of in zero and one at the same time. This is known as a superposition of states. Qubits have some very peculiar properties. For instance it is not possible to make copies of qubits. This is sometimes very useful, such as when you want to keep information private. But it is also sometimes very annoying, because you can imagine that if you cannot copy a qubit you cannot use this copying mechanism as a means to overcome errors.