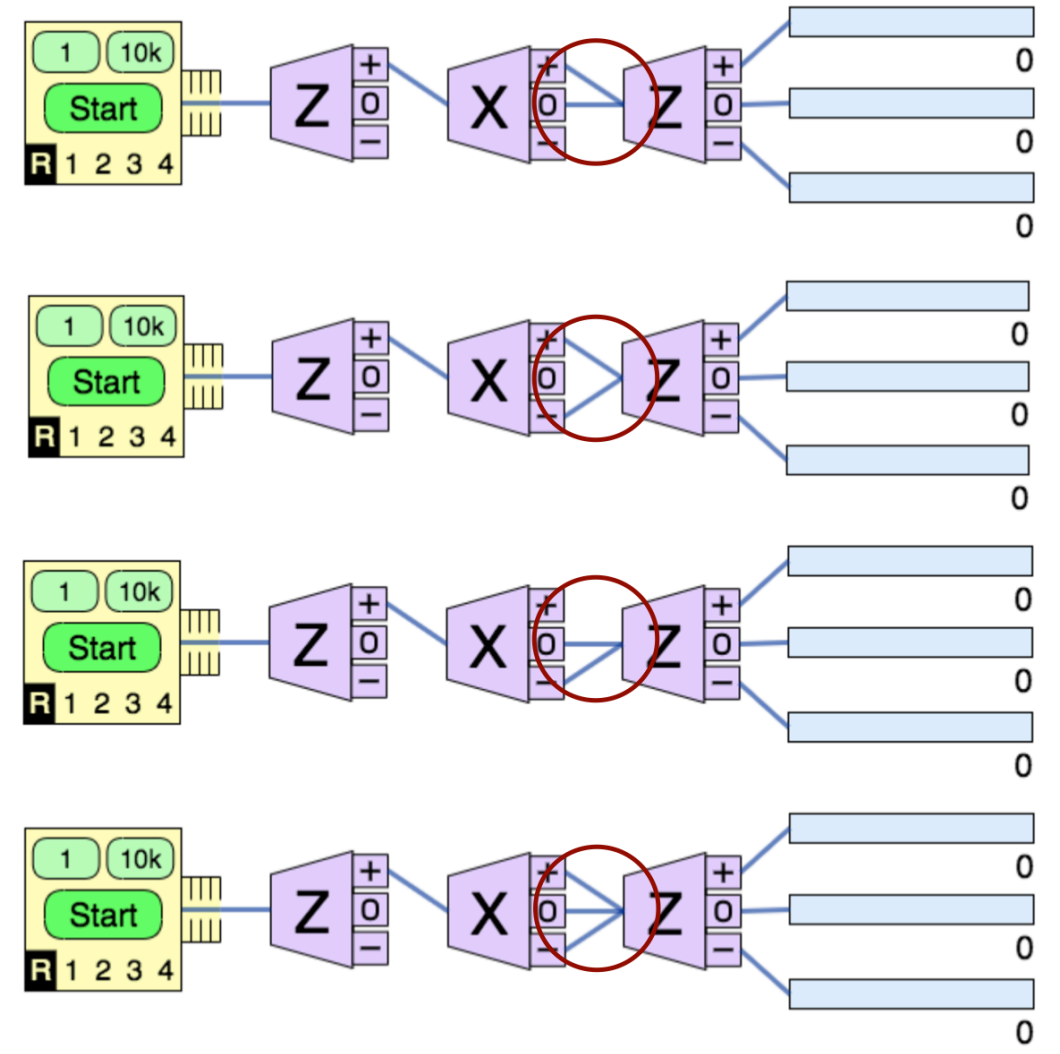
1 Spin One Interferometer Brief

Consider a spin 1 interferometer which prepares the state as $|1\rangle$, then sends this state through an S_x apparatus and then an S_z apparatus. For the four possible cases where a pair of beams or all three beams from the S_x Stern-Gernach analyzer are used, calculate the probabilities that a particle entering the last Stern-Gerlach device will be measured to have each possible value of S_z. Compare your theoretical calculations to results of the simulation. Make sure that you explicitly discuss your choice of projection operators.

Note: You do not need to do the first case, as we have done it in class.