

Example

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1 Exercise

$$\begin{aligned} & |000\rangle H_2 X_3^2 X_2^1 H_1 \\ &= [0.5\sqrt{2}|000\rangle + 0.5\sqrt{2}|010\rangle] X_3^2 X_2^1 H_1 \\ &= [0.5\sqrt{2}|000\rangle + 0.5\sqrt{2}|011\rangle] X_2^1 H_1 \\ &= [0.5\sqrt{2}|000\rangle + 0.5\sqrt{2}|011\rangle] H_1 \\ &= [0.5|000\rangle + 0.5|011\rangle + 0.5|100\rangle + 0.5|111\rangle] \end{aligned}$$