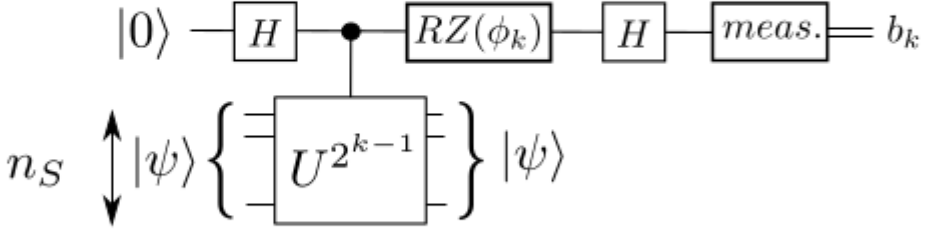
for k in **range**(n_B, 0, -1)[3]:

1. compute $\phi_k = 2\pi \cdot \sum_{l=k+1}^{n_B} \frac{b_l}{2^{l-k+1}}$
2. produce and execute the following circuit:



which yields b_k.