

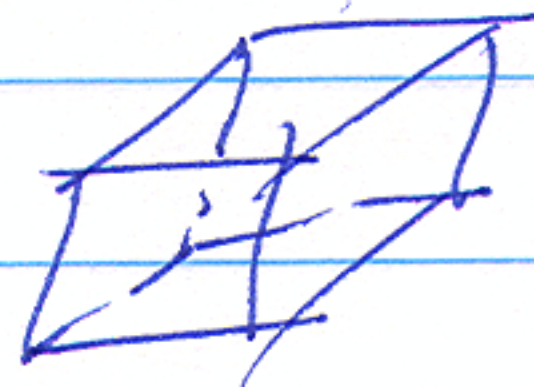
key to ...

realize FT over \mathbb{Z}_2^n

$100 \rightarrow$
 $10 \rightarrow$
 \vdots
 $1 \rightarrow$

vs

$$\sum_x \frac{(-1)^{x \cdot s}}{2^{n/2}} |x\rangle$$



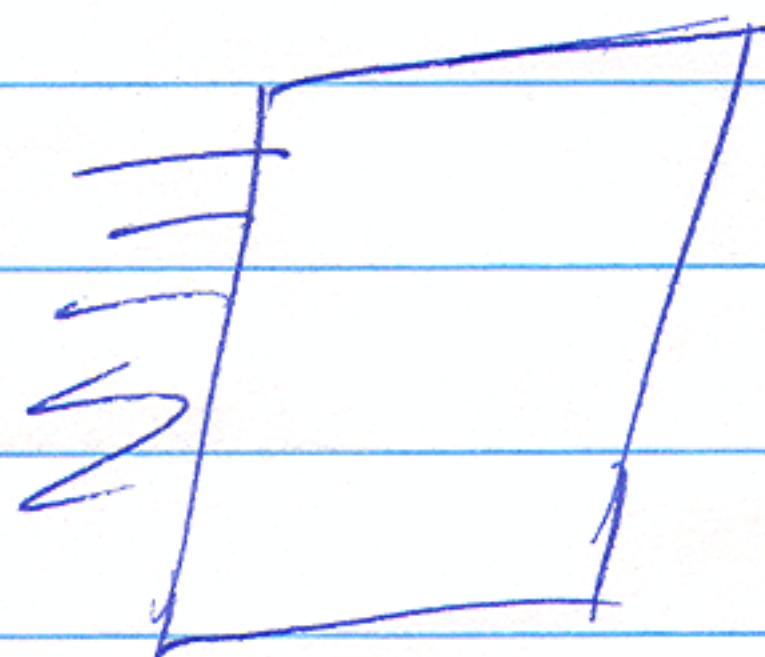
Fourier sampling:

$$|\psi\rangle \xrightarrow{H} H|\psi\rangle \text{ measure.}$$

how to duplicate?

BV RFS

$$f(x) = x \cdot s$$



only need to compute f twice to get

answer of how to? make f really hard!!

$$K + O(n) \quad \text{vs} \quad nK.$$