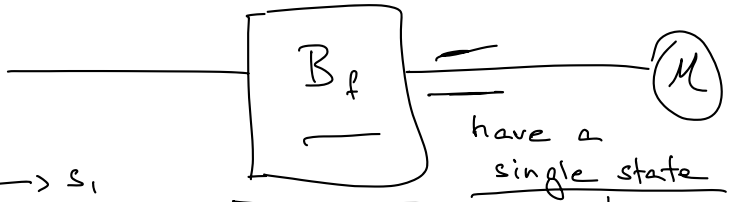
Query Complexity



have a single state → one of 2^n many possible states, each identifies a unique f.

we should be able to identify f.

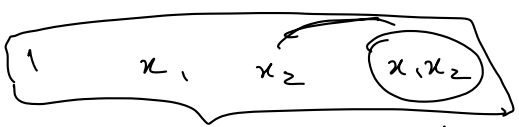
$n = 4$

$1000 \longrightarrow s_1$
$0100 \longrightarrow s_2$
$0010 \longrightarrow s_3$
$0001 \longrightarrow s_4$

$f = s \cdot x \bmod 2$

m boxes & each box has a state

then G.S. gives me a new set of m boxes with orthogonal states in them.



not orthogonal to remaining 3.

$\prod_{i:\, s_i = 1} x_i$

$n = 3 \qquad x_1\ x_2\ x_3$

$\lambda_i \in \{0, 1\}$

$\longrightarrow \lambda_1 \boxed{x_1 x_2 \oplus \lambda_2 x_2 x_3 \oplus \lambda_3 x_1 x_3} \oplus \lambda_4 x_1 \oplus^{\lambda_5} x_2 \oplus^{\lambda_6} x_3$