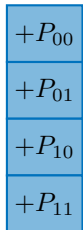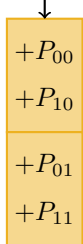Define:

$$n = k = 2, R = I_n, t = 0$$

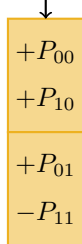Evaluate:

$$\left| \sum_{x=0}^{2^n-1} -1^{x^\top Q x} i^{c^\top x} P_x \right|$$

2^2

$+P_{00}$
$+P_{01}$
$+P_{10}$
$+P_{11}$

2^1

$+P_{00}$
$+P_{10}$
$+P_{01}$
$+P_{11}$

$c = \begin{bmatrix} 0 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 0 & 0 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.25

$+P_{00}$
$+P_{10}$
$+P_{01}$
$-P_{11}$

$c = \begin{bmatrix} 0 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 0 & 1 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.10

$\cdots$

$+P_{00}$
$-iP_{10}$
$+P_{01}$
$-iP_{11}$
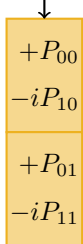
$c = \begin{bmatrix} 1 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 1 & 0 \\ & ? \end{bmatrix}$

(upper bound) $\leq$ 0.95

$+P_{00}$
$-iP_{10}$
$+P_{01}$
$+iP_{11}$
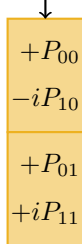
$c = \begin{bmatrix} 1 \\ ? \end{bmatrix}$

$Q = \begin{bmatrix} 1 & 1 \\ & ? \end{bmatrix}$

(upper bound) ≤ 1.20

2^0

$+P_{00}$	$+P_{00}$	$+P_{00}$	$+P_{00}$
$+P_{10}$	$+P_{10}$	$+P_{10}$	$+P_{10}$
$+P_{01}$	$-P_{01}$	$+iP_{01}$	$-iP_{01}$
$+P_{11}$	$-P_{11}$	$+iP_{11}$	$-iP_{11}$

$+P_{00}$	$+P_{00}$	$+P_{00}$	$+P_{00}$
$+P_{10}$	$+P_{10}$	$+P_{10}$	$+P_{10}$
$+P_{01}$	$-P_{01}$	$+iP_{01}$	$-iP_{01}$
$-P_{11}$	$+P_{11}$	$-iP_{11}$	$+iP_{11}$

$\cdots$
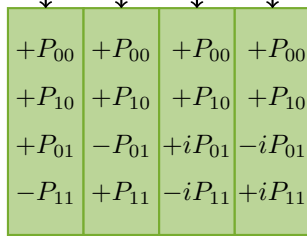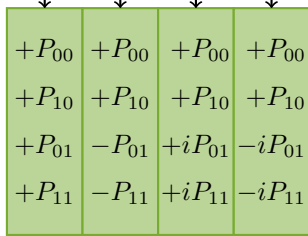
Branch Cut
(skip this subtree)

$+P_{00}$	$+P_{00}$	$+P_{00}$	$+P_{00}$
$-iP_{10}$	$-iP_{10}$	$-iP_{10}$	$-iP_{10}$
$+P_{01}$	$-P_{01}$	$+iP_{01}$	$-iP_{01}$
$+iP_{11}$	$-iP_{11}$	$-P_{11}$	$+P_{11}$