$\mathbf{Judge}\ J$	Inverter I
sample distinct $p, q \in [2^k, 2^{k+1})$	
n := pq	
sample $e \in \mathbb{Z}_{\phi(n)}^*$	
sample uniform $y \in \mathbb{Z}_n$	
	ightharpoonup J.y compute x
	compute x
ightharpoonup I.x	I I
$\mathbf{return}y \stackrel{?}{=} x^{e_k}$	