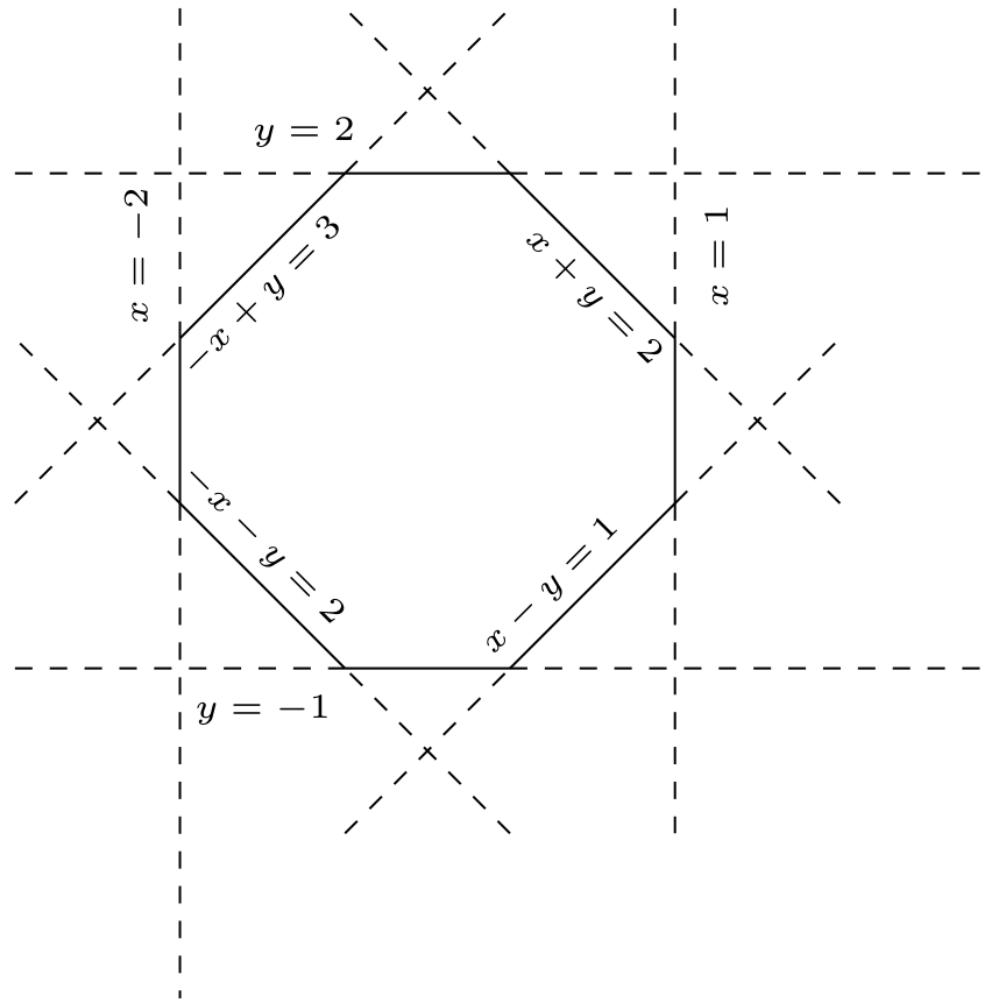


Octagons

- Let L be the set of Octagonal inequalities between n variables, then an octagon is conjunction of all the inequalities in set L



Encoding of Octagons

- ▶ Each octagonal inequality can be encoded as an element of a matrix m
- ▶ Each variable v_i is unfolded into $v'_{2i} = v_i^+$ and $v'_{2i+1} = v_i^-$
- ▶ $m_{i,j} = c$ represents $v'_j - v'_i \leq c$
- ▶ $v_i + v_j \leq c$ can be represented as:
 $v_j^+ - v_i^- \leq c$ and
 $v_i^+ - v_j^- \leq c$

	v_0^+	v_0^-	v_1^+	v_1^-	v_2^+	v_2^-	v_3^+	v_3^-	
v_0^+	0								
v_0^-		0							
v_1^+			0						
v_1^-				0					$v_1 + v_2 \leq c$
v_2^+					0				$-2v_2 \leq c_1$
v_2^-						0			
v_3^+							0		
v_3^-								0	

$v_1 + v_2 \leq c$ (indicated by an arrow from the cell (v_1^-, v_2^+))
 $-2v_2 \leq c_1$ (indicated by an arrow from the cell (v_2^+, v_2^-))
 $2v_2 \leq c_2$ (indicated by an arrow from the cell (v_2^-, v_2^+))