Approximating CVP is NP-hard (referuje Marek Krčál)
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$L(v_1,\dots,v_n)$	**lattice:** $\{\sum_i a_i v_i \mid a_i \in \mathbf{Z}\}$, where $v_1,\dots,v_n$ independent in $\mathbf{Z}^k$
CVP	**IN:** $(v_1,\dots v_n), y \in \mathbf{R}^k$ **OUT:** $v \in L(v_1,\dots,v_n)$ **GOAL:** minimize $\|l-y\|_1$
SVP	**IN:** $(v_1,\dots v_n)$ **OUT:** $0 \neq v \in L(v_1,\dots,v_n)$ **GOAL:** minimize $\|l\|_1$
tests	$\Psi = (\psi_1 \dots, \psi_n)$
variables	$\mathcal{V} = (x_1,\dots,x_m)$
lists of satisfying **assignments**	$\mathcal{R}_{\psi_1},\dots,\mathcal{R}_{\psi_n}$, where $\mathcal{R}_{\psi_i} \subseteq \mathbf{F}^{\mathcal{V}_{\psi_i}}$ where $\mathcal{V}_{\psi_i}$ is set of variables of ψ_i and $\mathbf{F}$ a field.
super assignment S	function $S: \psi \mapsto S(\psi) \in \mathbf{Z}^{\mathcal{R}_\psi}$ for each $\psi \in \Psi$ $S(\psi) = (S(\psi)[r_1],\dots,S(\psi)[r_k])$ where $\mathcal{R}_\psi = \{r_1,\dots,r_k\}$
projection $S(\psi)\|_x$	$\forall a \in \mathbf{F}$ set $S(\psi)\|_x[a] := \sum_{r, r\|_x=a} S(\psi)[r]$ where x variable of ψ
S **consistent**	$\forall \psi,\phi \in \Psi, x \in \mathcal{V}$ holds $S(\psi)\|_x = S(\phi)\|_x$
S **natural**	$S(\psi) = (0,\dots,0,1,0,\dots,0)$ for each ψ
S **non-trivial**	$S(\psi) \neq (0,\dots,0)$ for each ψ
norm $\|S\|$	$\|S\| := (1/\|\Psi\|)\sum_i \|S(\psi_i)\|_1$
g-**SSAT**	**IN**:$(\Psi,\mathcal{V},\mathcal{R}_{\psi_1},\dots,\mathcal{R}_{\psi_n})$ **OUT**:distinguish YES: $\exists$ consistent natural S NO: $\forall$ consistent non-trivial S holds $\|S\| > g$.
g-**CVP**	**IN**:$v_1,\dots,v_n \in \mathbf{Z}^k, y \in \mathcal{R}^k, d \in \mathbf{R}$ **OUT**:distinguish YES: $\exists v \in L(v_1,\dots,v_n)$ s. t. $\|y-v\|_1 \le d$ NO: $\forall v \in L(v_1,\dots,v_n)$ holds $\|y-v\|_1 > gd$.
g-**SIS**	**IN**:integer matrix $B=(b_1,\dots,b_n)$, target vector $t \in L(b_1,\dots,b_n)$ and $d \in \mathbf{R}$ **OUT**:distinguish YES: $\exists$ solution $\sum_i a_i b_i = t$ with $\|b\|_1 \le d$ NO: $\forall$ solutions $\sum_i a_i b_i = t$ holds $\|b\|_1 > gd$

OUTLINE: g'-CVP> g'-SIS> g-SSAT($> PCP$) $> SAT$ where $g^{(')} = n^{c^{(')}/\log\log n}$ where $n = |\Psi|$ and $c^{(')} > 0$ is some constant.