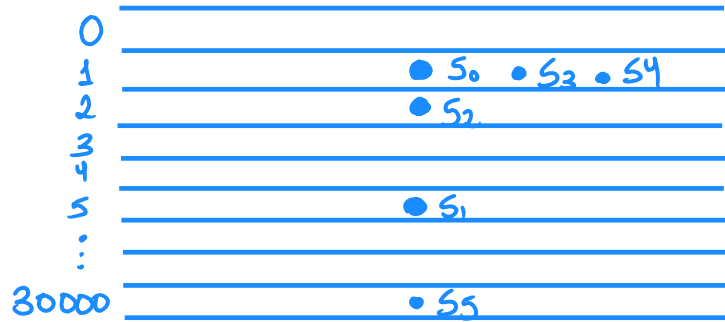


INPUT

$r = 6$



OPTIMAL HOUSE POSITION

$$\min_{v \in [0, 30000]} \left( \sum_{i=0}^{r-1} \text{abs}(v - s_i) \right)$$

This is achieved when  $v$  is the median of all  $s_i$  values

(demonstration not provided)