1. Find P- and N-positions in the misère subtraction game with the subtrucation set \{1, 3, 5\}.

Solution:
2. Two players are playing the following combinatorial game.

- On each turn they put a chess knight on a board $9 \times 9$ so that it is not attacked by previously placed knights.
- The take turns and the player that cannot make a move loses.

Determine who has a winning strategy.

Solution:
3. Two players are playing the following combinatorial game with several piles of chips.

- They take turns;
- on each turn the current player splits one pile into two non-empty piles of chips;
- the player that cannot make a move loses.

Find the value of the Sprague–Grundy function for positions with one pile consisting of $n$ chips.

**Solution:**
4. We say that $\bar{L} = (\Omega, Pr)$ is a randomized B-decision list iff $\Omega$ is a finite set of B-decision lists and $Pr$ is a probability distribution on $\Omega$.

We define $\ell(L, x)$ recursively:

- If $L$ is an integer, then $\ell(L, x) = 0$.
- If $L = (f, y, L')$, then

$$\ell(L, x) = \begin{cases} 
1 & \text{if } f(x) = 1 \\
1 + \ell(L', x) & \text{if } f(x) = 0 
\end{cases}.$$ 

Let $f : [1000] \to \mathbb{Z}$; we denote by $RL(f) = \min_{L} \max_{x \in [1000]} E_{L \sim \bar{L}} \ell(L, x)$. Show that $RL(id) \geq 500$, where $id : [1000] \to \mathbb{Z}$ and $id(x) = x$.

**Solution:**