Algorithms (Informally)

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Abstract

Some infomal algorithms.

1 Linear model

Algorithm 1: linear model

Input: $X^T = [x_1, x_2, \cdots, x_8]$ (eight neighbors), with $x_i = \{-1, 1, 2, \cdots, 8\}$(-1 for unrevealed tiles).
Output: category $G = \{0, 1\}$.(0 for safe and 1 for a mine)

Assume $X \leftarrow \begin{bmatrix} 1 \\ X \end{bmatrix}$, $w^T = [w_0, w_1, \cdots, w_8]$.
Begin by probing a corner square (Assume $(0, 0)$);
while *not game over* **do**
    Array $\leftarrow tilesatfrontier$
    for *tile in Array* **do**
        G(tile) $\leftarrow$sign(X(tile)$^T w$)
    end
end

2 Dummy Q-learning

Algorithm 2: dummy q-learning

Input: $X^T = [x_1, x_2, \cdots, x_8]$ (eight neighbors), with $x_i = \{-1, 1, 2, \cdots, 8\}$(-1 for unrevealed tiles).
Output: category $G = \{0, 1\}$.(0 for safe and 1 for a mine)

Assume $X \leftarrow \begin{bmatrix} 1 \\ X \end{bmatrix}$, $w^T = [w_0, w_1, \cdots, w_8]$.

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