Basic Idea

$X \rightarrow$ Player

$O \rightarrow$ CPU

Iteration ①

– Random-Placement (could be improved)

```
  X |   |
 ---+---+---
    | O |
 ---+---+---
    |   |
```

Iteration ②,...

– Probability + Random Placement (could be improved)

```
  X | X₁ | 2
 ---+----+---
  3 | O  | r
 ---+----+---
  6 | 7  | 8
```

$$\begin{array}{c} \xrightarrow{\; 0 \; 1 \; 2\;} \\ \uparrow \begin{array}{c} 0 \\ 1 \\ 2 \end{array} \left[\begin{array}{ccc} X, & X, & \square, \\ \square, & O, & \square \\ \square, & \square, & \square \end{array} \right] \\ \downarrow 0 \quad \downarrow 1 \end{array}$$

$\rightarrow$ Horizontal Prob.

$\uparrow$ Vertical Prob.

$\searrow$ Diagonal Prob. etc.

if ($\rightarrow$ == $\uparrow$ == $\downarrow$) :

     determ Randomly

else :

     determ Randomly on the Row with the highest Probability

0 $\rightarrow$ $-\frac{1}{3} - \frac{1}{3} + \frac{0}{3} \rightarrow -\frac{2}{3}$ $\uparrow^0$ $-\frac{1}{3} + \frac{0}{3} + \frac{0}{3} \rightarrow -\frac{1}{3}$

①

$\rightarrow$ $\frac{0}{3} + \frac{1}{3} + \frac{0}{3} \rightarrow \frac{1}{3}$ $\uparrow^1$ $-\frac{1}{3} + \frac{1}{3} + \frac{0}{3} \rightarrow \frac{0}{3}$

②

$\rightarrow$ $\frac{0}{3} + \frac{0}{3} + \frac{0}{3} \rightarrow \frac{0}{3}$ $\uparrow^2$ $\frac{0}{3} + \frac{0}{3} + \frac{0}{3} \rightarrow \frac{0}{3}$

$\searrow^0$ $-\frac{1}{3} + \frac{0}{3} + \frac{0}{3} \rightarrow \frac{0}{3}$

$\searrow 0$ $\frac{0}{3} + \frac{1}{3} + \frac{0}{3} \rightarrow \frac{1}{3}$