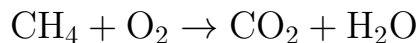


Balancing Chemical Equations



↓
Parsing

↓
ElemS = [['C'], ['H'], ['O'], ['C'], ['O'], ['H'], ['O']]
FormulaS = [[['C'], 1], [['H'], 4], [['O'], 2], [['C'], 1], [['O'], 2],
2], [['H'], 2], [['O'], 1]]
ElementSideSet = [[['C'], ['H'], ['O']], [['C'], ['O'], ['H'], ['O']]]
Equation = [[[['C'], 1], [['H'], 4], [['O'], 2]], [[[['C'], 1],
[['O'], 2], [['H'], 2], [['O'], 1]]]

↓
Matrix Tabulation

↓

	CH ₄	O ₂	-CO ₂	-H ₂ O
C	1	0	-1	0
H	4	0	0	-2
O	0	2	-2	-1

↓
System of Linear Equations

↓

$$\begin{cases} 1a + 0b - 1c - 0d &= 0 \\ 4a + 0b - 0c - 2d &= 0 \\ 0a + 2b - 2c - 1d &= 0 \end{cases}$$

↓
Solving

↓

$$a = 1, b = 2, c = 1, d = 2$$

↓
Reverse Parsing

