For calculating

$$X = [x_1, x_2, x_3 \ldots\ldots x_{390}]$$

Given $\Sigma x_i = S$

we will have a $G(X)$ matrix
(Consists of the $g_t(x)$ predictions)

$\therefore$ $G(x)$ is of the form

$$\begin{array}{c c}
 & \\
\begin{array}{c} x_i \\ \text{(At different values)} \\ \downarrow \end{array} & \begin{bmatrix} g_1(x_1) & \ldots\ldots\ldots & g_{390}(x_1) \\ g_1(x_2) & \ldots\ldots & \vdots \\ \vdots & \ddots & \vdots \\ g_1(x_{390}) & \ldots\ldots & g_{390}(x_{390}) \end{bmatrix}
\end{array}$$

In terms of simple optimization, what we can do is

Take the first row

$\hookrightarrow (g_1(x_1), g_2(x_1), \ldots\ldots g_{390}(x_1))$

take the least value from this row,
x_i (

suppose its this one $\left(g_1(x_1) \quad g_2(x_1) \quad g_3(x_1) \cdots\cdots g_{390}(x_1) \right)$

then update the $X = (0 \; x_1 \; 0 \; 0 \; 0 \; 0 \ldots)$

then take the row as $\left(g_1(x_1) \quad g_2(x_2) \quad g_3(x_1) \cdots\cdots g_{390}(x_1) \right)$

took the next term

Now if $g_2(x_2)$ is the smallest

, ~~replace~~ update X with $(0 \; x_2 \; 0 \; 0 \; 0 \cdots\cdots)$

else take $\underbrace{g_n(x_1)}_{\text{the smallest term}}$ in X as $\Rightarrow (0 \; x_2 \; 0 \; 0 \; 0 \cdots\cdots \underset{\text{at }(n)}{x_1} \; 0 \; 0)$

continue till $\Sigma x_i = S$.

This should give the optimal case of

X which

also follows our constraints !