Step-1

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Given that

$$A = ones(4,4) = \begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \end{pmatrix}$$

And

$$V = ones(4;1) = \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \end{pmatrix}$$

Step-2

$$A*V = \begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \end{pmatrix}\begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \end{pmatrix} = \begin{pmatrix} 4 \\ 4 \\ 4 \\ 4 \end{pmatrix}$$

Since using matrices multiplication or using MATLAB commands

Step-3

Given that

$$B = eye(4) + ones(4,4)\,times\,w$$

$$= \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} + \begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \end{pmatrix} * w$$

$$= \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} + \begin{pmatrix} w & w & w & w \\ w & w & w & w \\ w & w & w & w \\ w & w & w & w \end{pmatrix}$$

$$= \begin{pmatrix} 1+w & w & w & w \\ w & 1+w & w & w \\ w & w & 1+w & w \\ w & w & w & 1+w \end{pmatrix}$$

Since using matrices multiplication or using MATLAB commands

Step-4

In MATLAB commands if we ask for $V*A$ it shows error.

$$B = zeros(4,1) + 2*ones(4,1)$$
$$= \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} + 2*\begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \end{pmatrix}$$
$$= \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix}$$

Step-5

$$B*W = \begin{pmatrix} 1+w & w & w & w \\ w & 1+w & w & w \\ w & w & 1+w & w \\ w & w & w & 1+w \end{pmatrix}\begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix}$$
$$= \begin{pmatrix} 2+2w & 2w & 2w & 2w \\ 2w & 2+2w & 2w & 2w \\ 2w & 2w & 2+2w & 2w \\ 2w & 2w & 2w & 2+2w \end{pmatrix}$$

Since using matrices multiplication or using MATLAB commands