I need to evaluate the commutator or anticommutator of the matrices A and B given below;

$$A = \sigma_y \otimes \sigma_x \otimes \sigma_x \otimes 1_4 \otimes 1_4$$

$$B = 1_4 \otimes 1_4 \otimes \sigma_y \otimes \sigma_x \otimes \sigma_x$$

where 1_4 denotes 4×4 Identity Matrix and σ_y, σ_x are usual pauli spin matrices. I need to evaluate the commutator $[A, B]$ or anticommutator $\{A, B\}$.

1 Attempt to the problem

Actually,I tried something like this;

$$AB = \sigma_y.1_4 \otimes \sigma_x.1_4 \otimes \sigma_x\sigma_y \otimes 1_4\sigma_x \otimes 1_4\sigma_x$$

where usual matrix multiplication is understood in the arguments of the tensor product. But problem is $\sigma_y.1_4$ is not defined in the sense of matrix multiplication since 1_4 is four dimensional and σ_y is two dimensional. Where did I make a mistake?