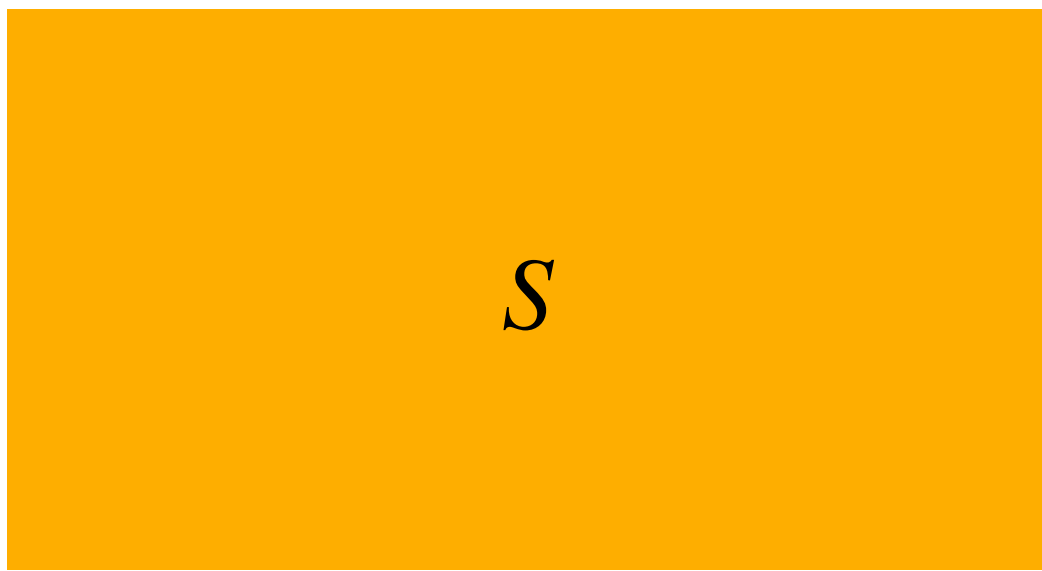


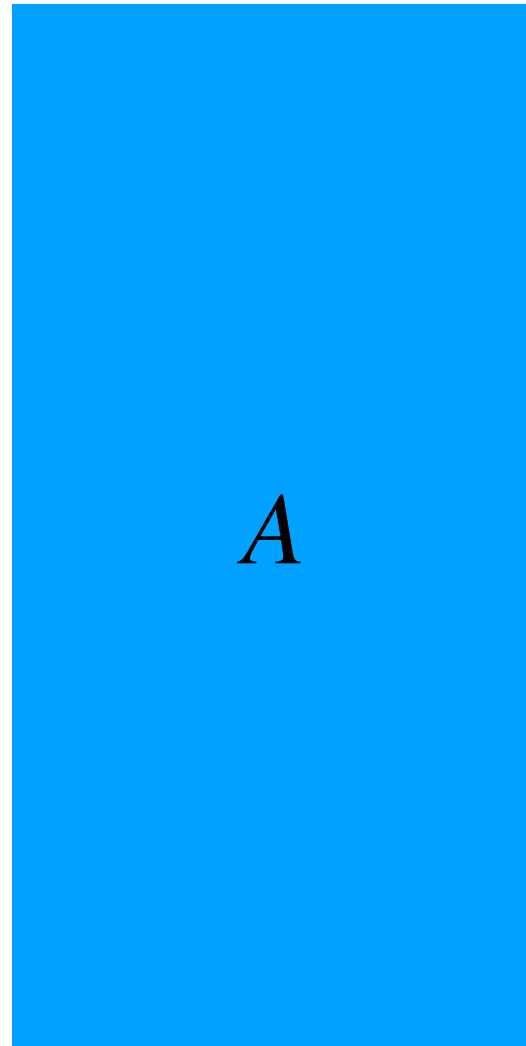
Linear Sketching

• Apply randomized linear transform

- CountSketch [Clarkson, Woodruff '13], OSNAP [Nelson, Nguyen '13], SRHT [Tropp '10], ...



\times



$=$

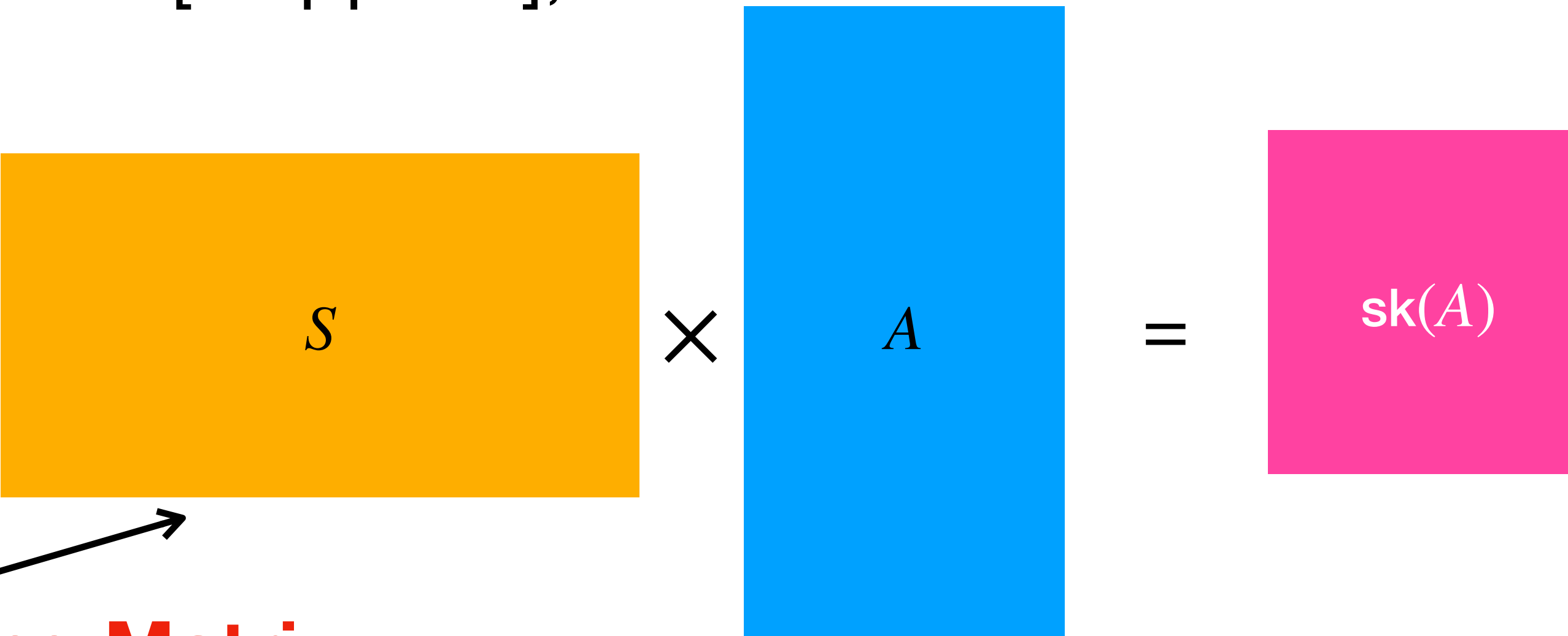


Sketching Matrix

- A good sketching matrix S consolidates information into the “sketch”

Linear Sketching

- Apply a randomized linear transform
 - CountSketch [Clarkson, Woodruff '13], OSNAP [Nelson, Nguyen '13], SRHT [Tropp '10], ...


$$\begin{matrix} \text{Sketching Matrix} \nearrow \\ S \end{matrix} \times A = \text{sk}(A)$$

- A good sketching matrix S consolidates information into the “sketch”

How is Sketching Useful?

Classic Setting