How is Sketching Useful?

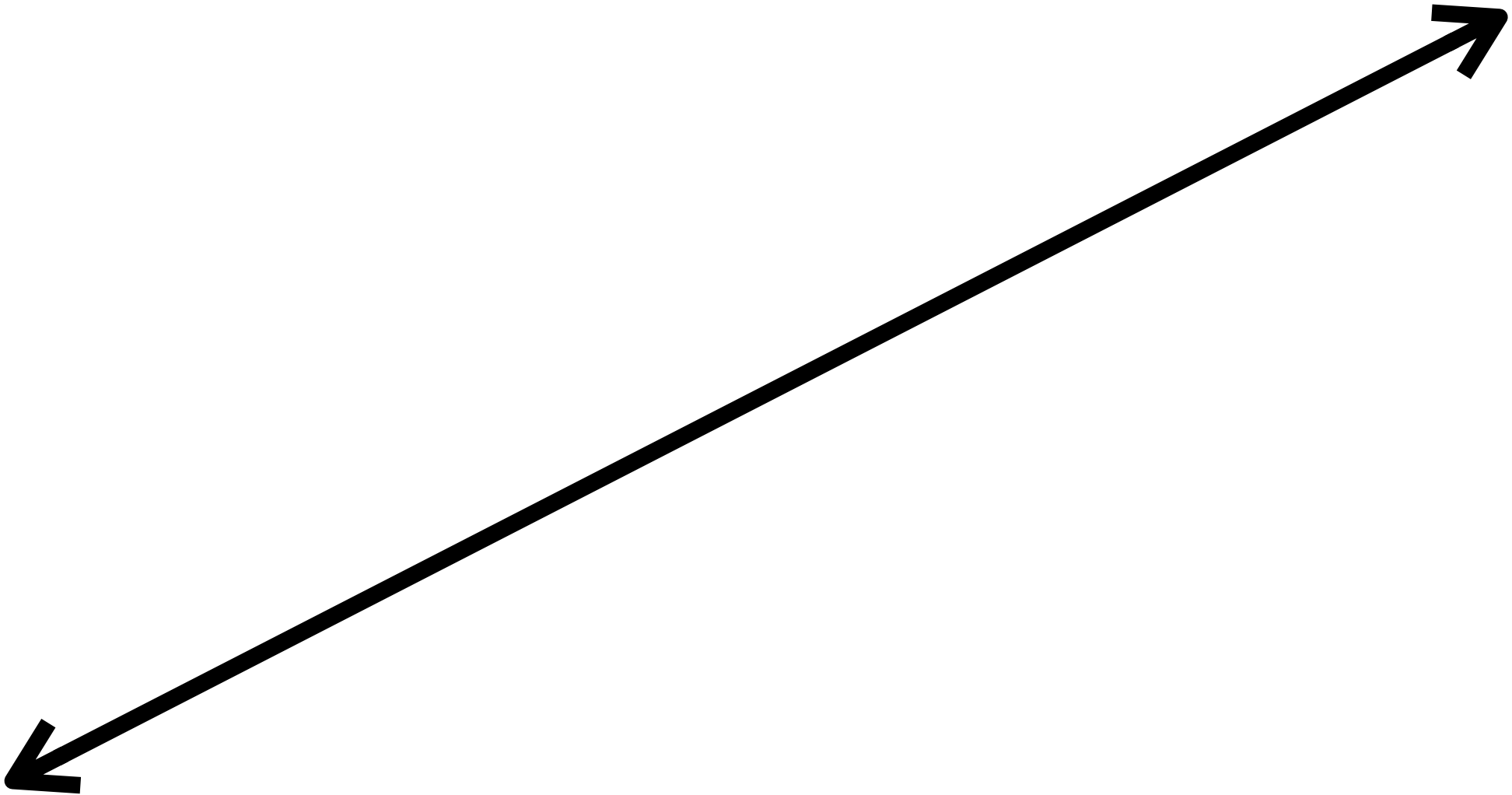
$A(1)$

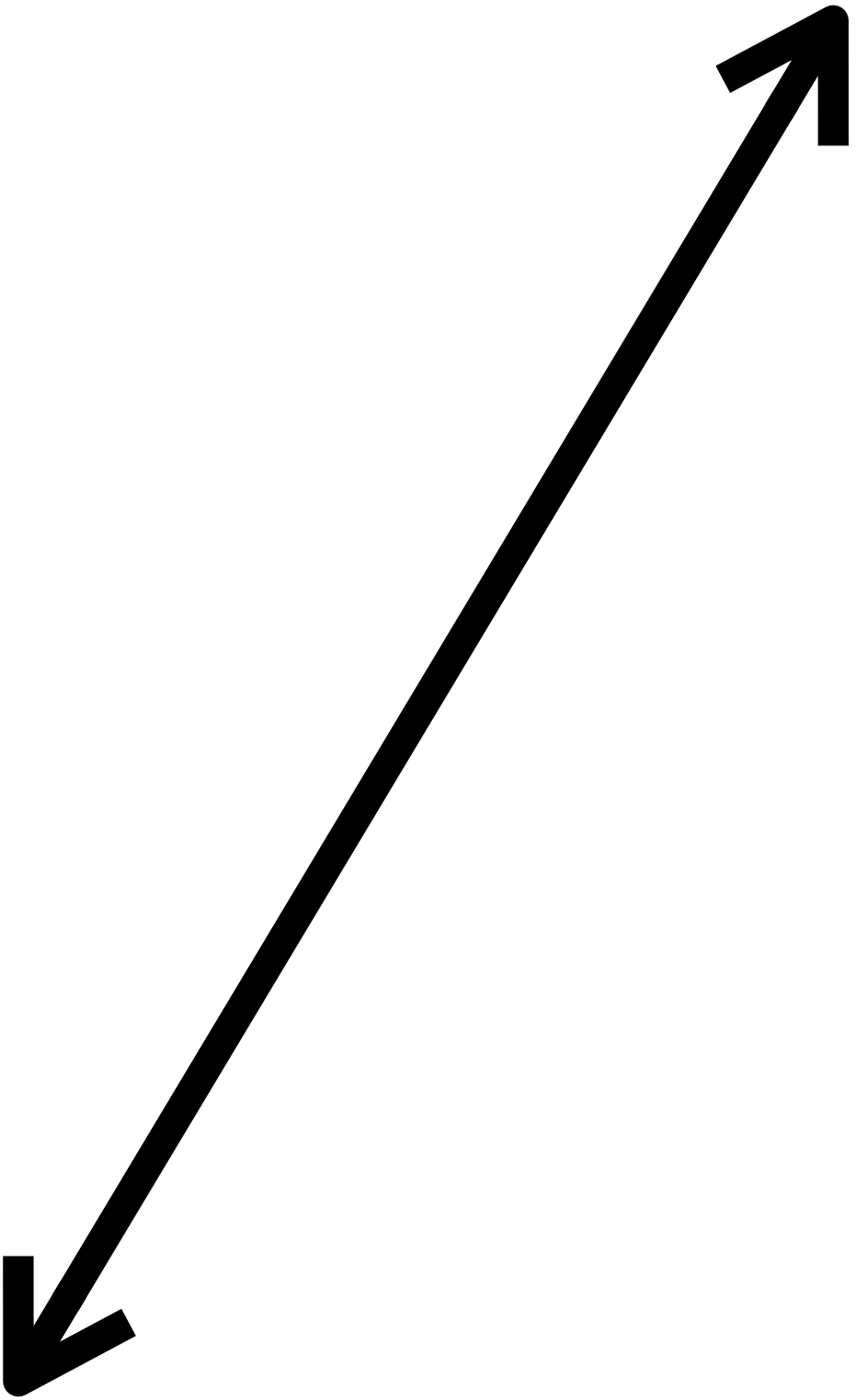
Server 1

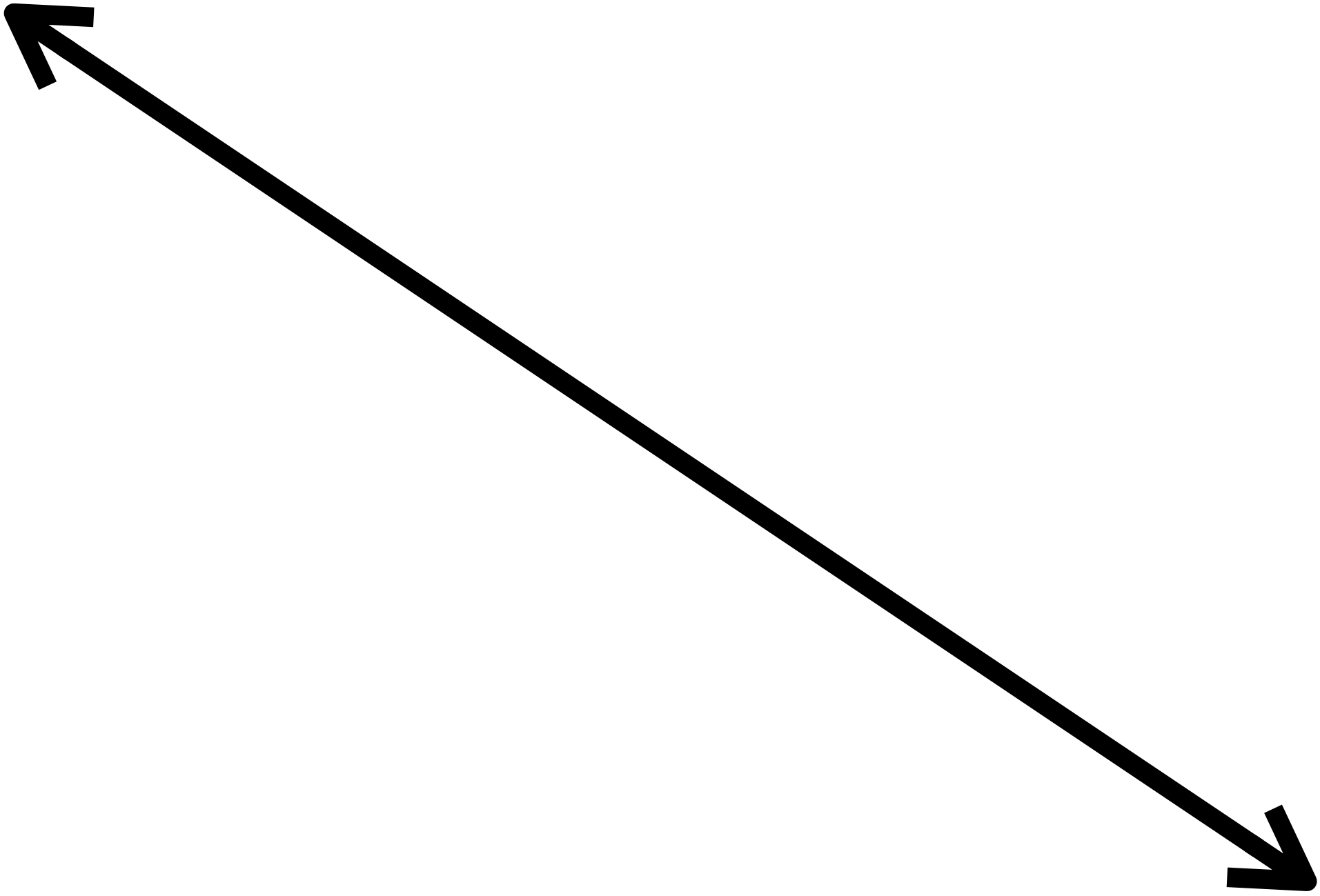
$A(2)$

Server 2

Coordinator







A

$$= A(1) + \cdots + A(s)$$

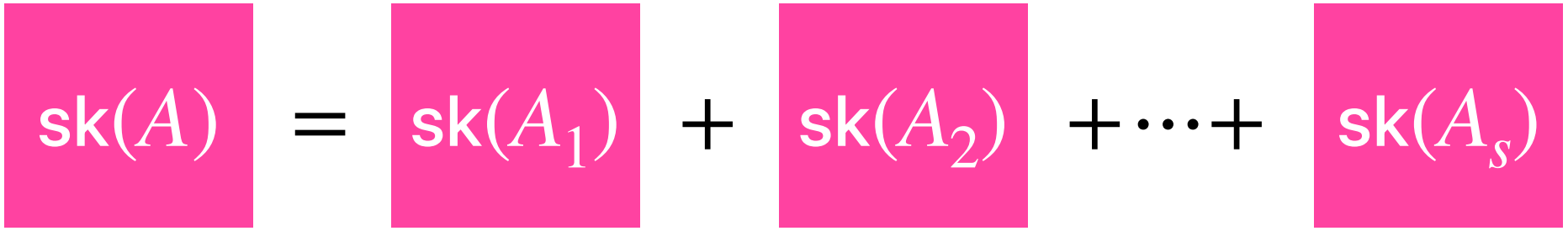
$A(s)$

Server s

sk(A_1)

sk(A_2)

sk(A_S)


sk(A) = sk(A1) + sk(A2) + ⋯ + sk(As)

Distributed Setting

10

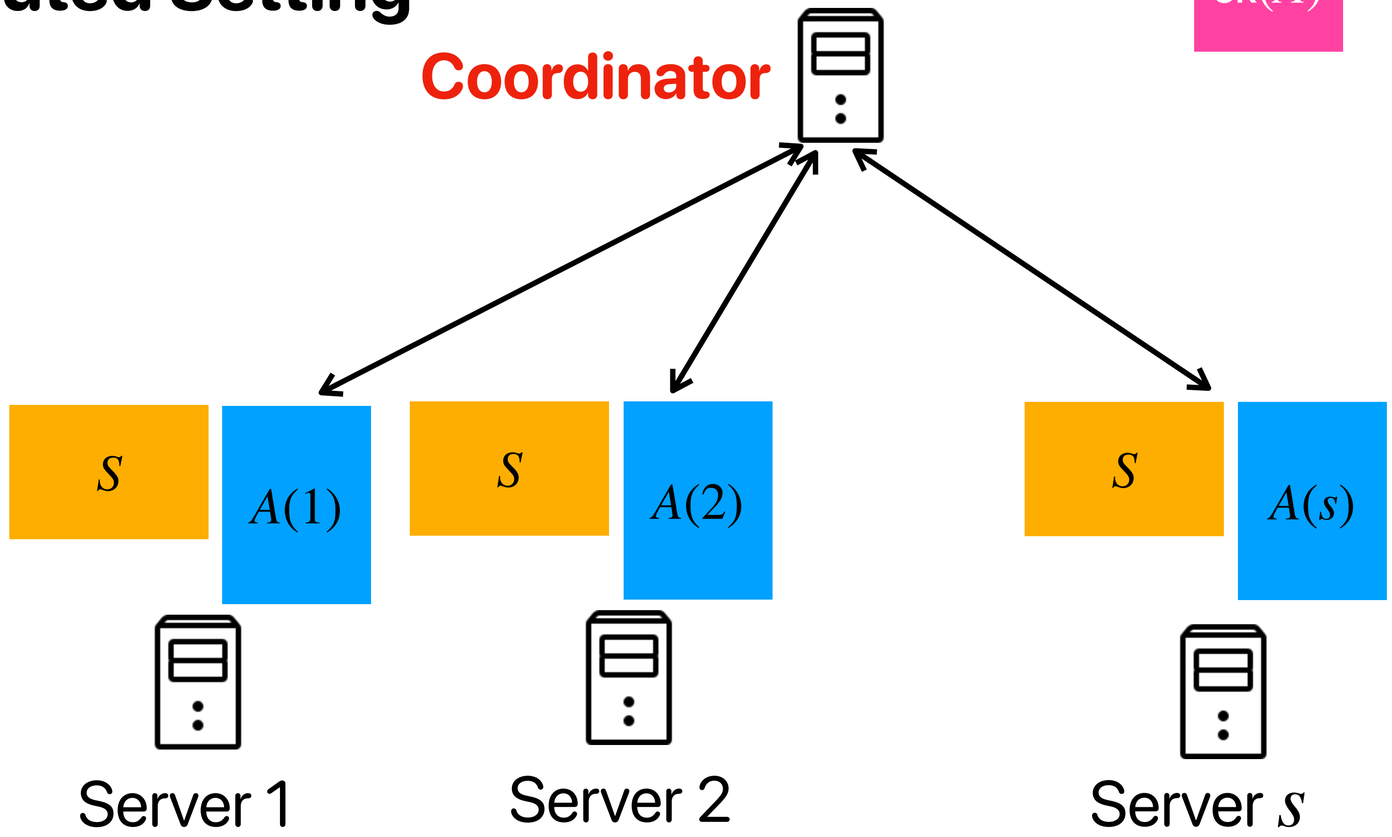
(Can typically be handled with low communication using Pseudorandom Generators)

How is Sketching Useful?

Distributed Setting

$\mathsf{sk}(A) = \mathsf{sk}(A_1) + \mathsf{sk}(A_2) + \cdots + \mathsf{sk}(A_s)$

$A = A(1) + \cdots + A(s)$



(Can typically be handled with low communication using Pseudorandom Generators)

How is Sketching Useful?

Turnstile Streaming