



Privacy can mean anything

*Differential* privacy is about respecting individual data in statistical analyses



specific

aggregates









V

S



Privacy can mean many things

***Differential*** privacy is about respecting  
individual data in statistical analyses

**specific**

vs.

**aggregate**

A randomized computation  $M$  is **differentially private** if there exists a value *epsilon* such that:

for any possible input dataset  $A$ ,  
for any possible input record  $r$ ,  
for any possible outcome  $S$ ,

$$\Pr[M(A) = S] \leq \exp(\epsilon) \times \Pr[M(A \pm r) = S].$$