

MwE M: Multiplicative Weights +

Exponential Mechanism

Imagine: a quite large set of counting questions.

an initial guess about the data distribution.

Let MWEM(**A**): repeat until happy ...

1. Use the exp mech to pick a **q** in **Q** “maximizing”

$$\mathbf{score}(\mathbf{A}, \mathbf{q}) = | \mathbf{q}(\mathbf{A}) - \mathbf{q}(\mathbf{D}) |.$$

2. Use the Laplace mech to measure **q**(**A**) + noise.

3. Update guess about distribution **D**, using MW.

