Independent Sampling of Columns

We want to construct a sketching matrix S such that for all x

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ullet S can be stored efficiently

• S_{st_i} can be generated **on-demand**

ullet If each S_{st_i} is independently sampled from a distribution

Analysis is easier

ullet $\Omega(n)$ space to store S and be able to retrieve S_{st_i} on demand

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Derandomizing with PRG