

CS5580 Quiz-3

StartWriting at S=5:30pm, StopWriting at D=6pm, Submit by D+15=6:15pm

NOTE: Please write your ROLL NO. clearly on ALL answer sheets.

Consider the standard space of matrices of size n with inner-product as Frobenius inner-product. Let U be the subset of all unit-trace matrices.

1. Show that U is an affine set.
2. Provide a dual description of U i.e., write U as either a hyperplane or intersection of hyperplanes.
3. Is U more efficiently described using the primal or using the dual ?
4. Provide a set with the smallest number of vectors whose affine hull is U . No need to justify.