



UNIVERSITAT_{DE}
BARCELONA

OPTIMIZATION

MASTER IN FUNDAMENTAL PRINCIPLES OF DATA SCIENCE

OPTIMIZATION PROBLEM 10

SIMPLEX PROBLEM



DATA SCIENCE @ UNIVERSITAT DE BARCELONA

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1 Problem description

Prove that the number of faces of dimension p of a n -dimensional simplex is equal to

$$\binom{n+1}{p+1} = \frac{(n+1)!}{(p+1)!(n-p)!}$$

2 Solution