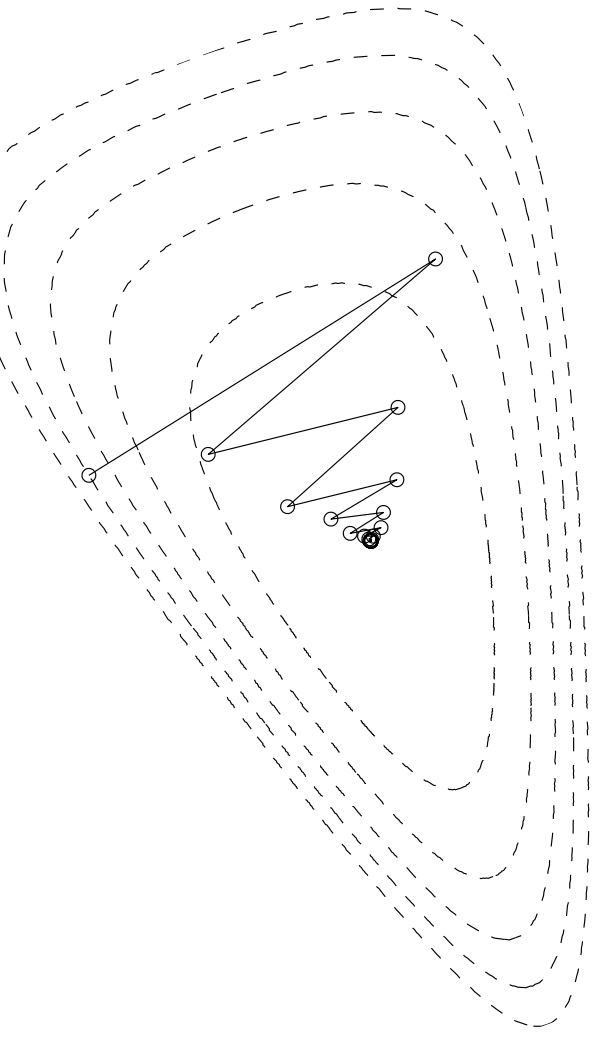

Optimization Algorithms

Some Functions

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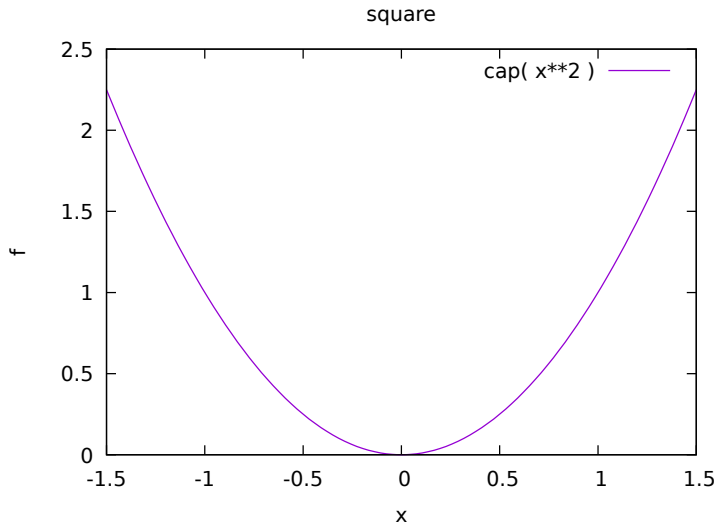
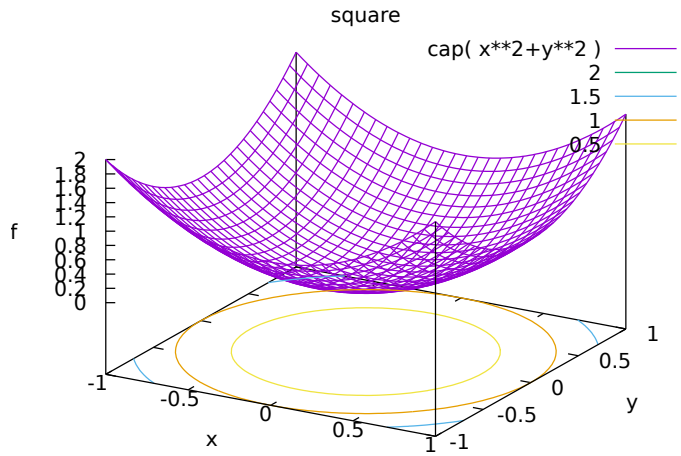
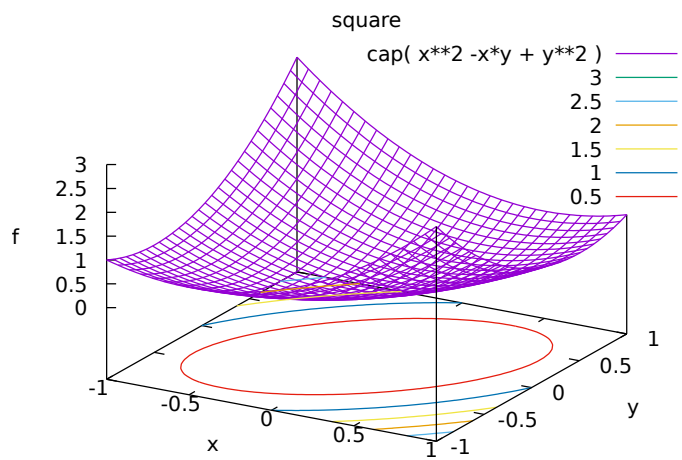
Technical University of Berlin
Winter 2020/21

- These slices are complementary to the real lecture slides. They just list certain functions that you'll discover are quite relevant for optimization.

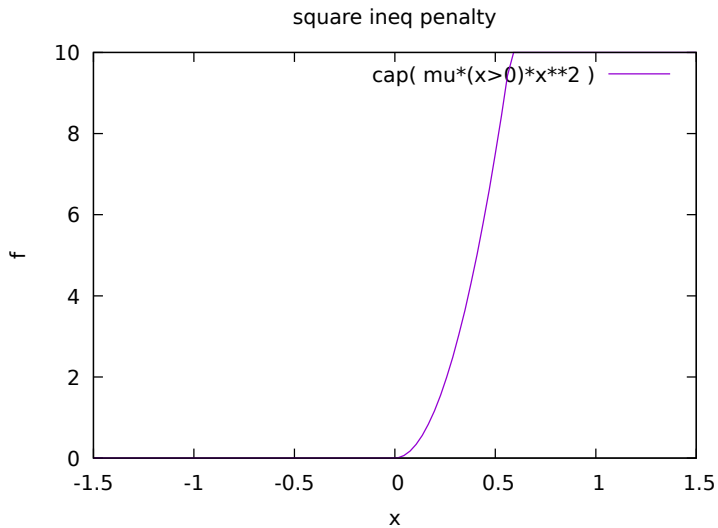
square cost: $x^\top C x$

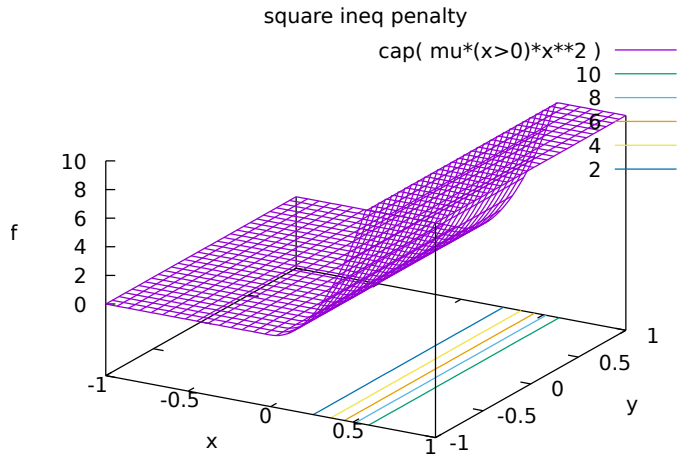




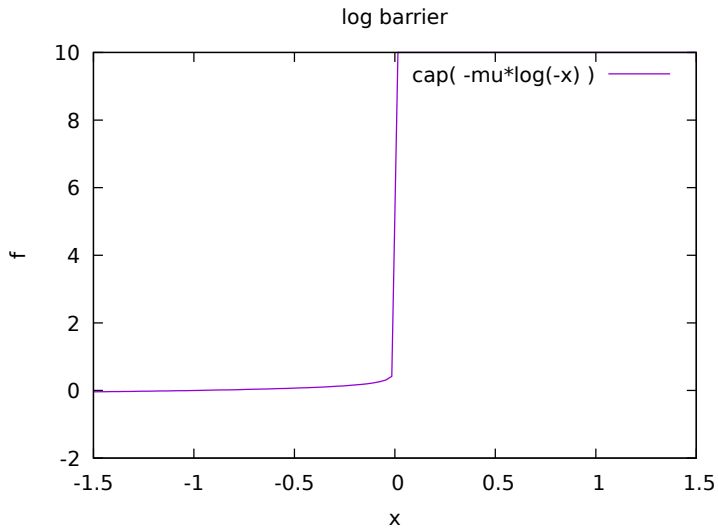


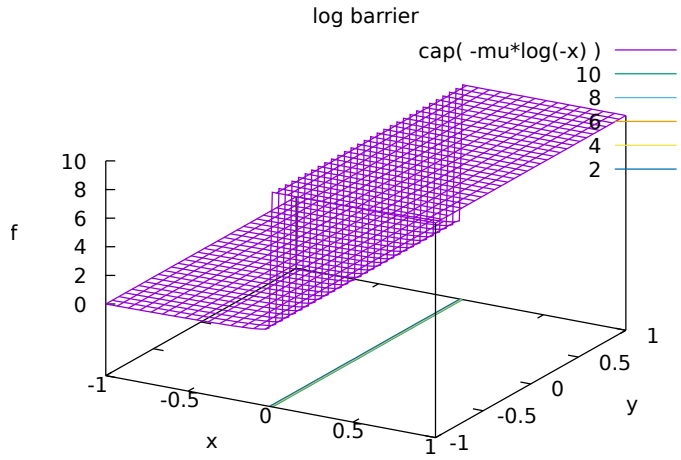
square ineq penalty: $\mu[x > 0]x^2$



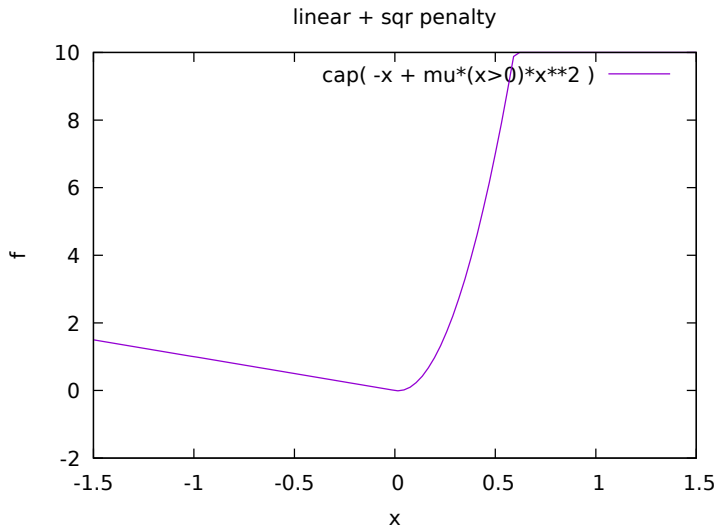


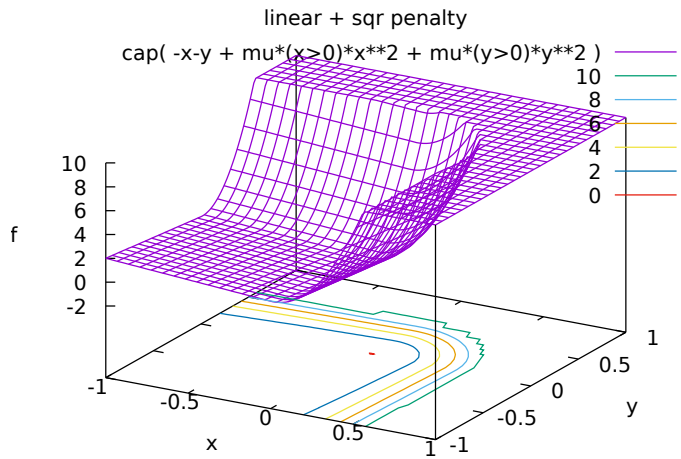
log barrier: $-\mu \log(-x)$



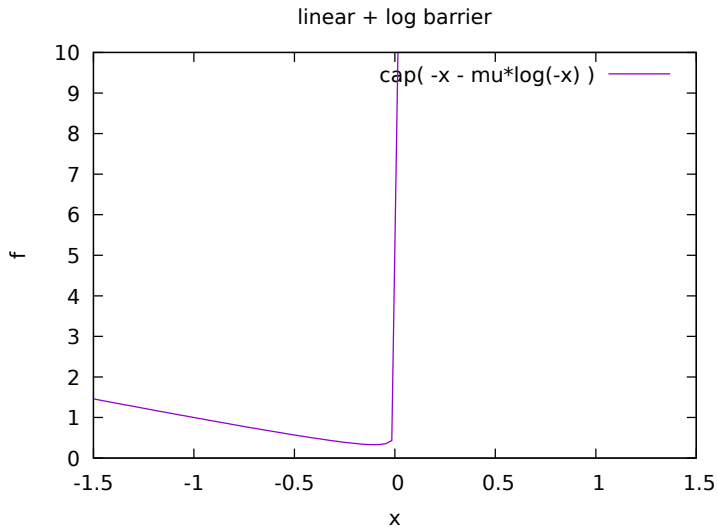


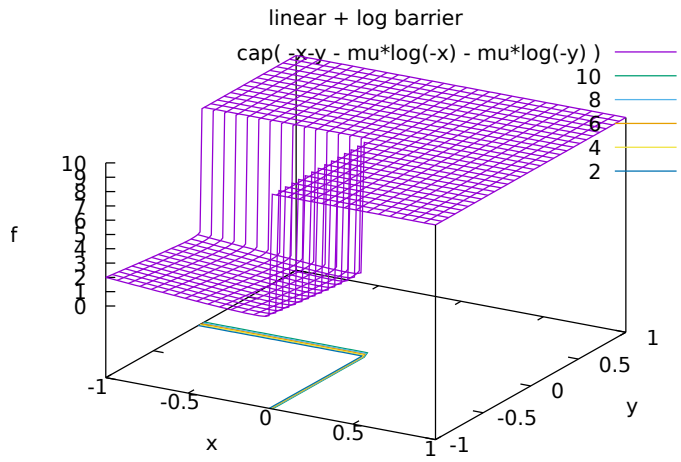
linear with square ineq penalty: $-x + \mu[x > 0]x^2$



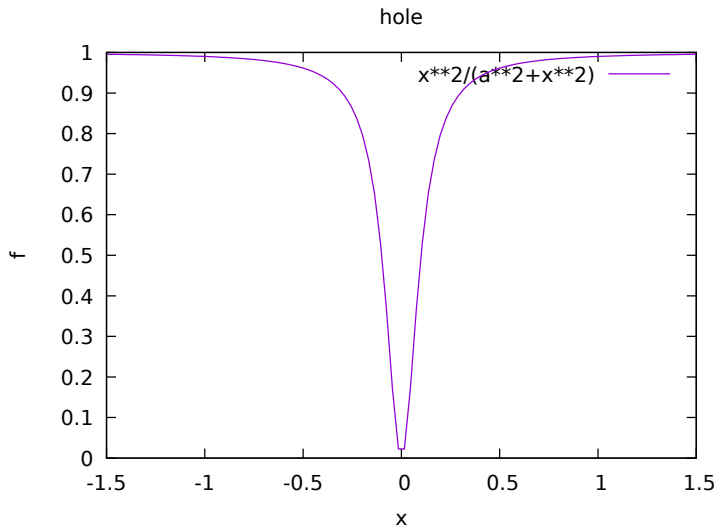


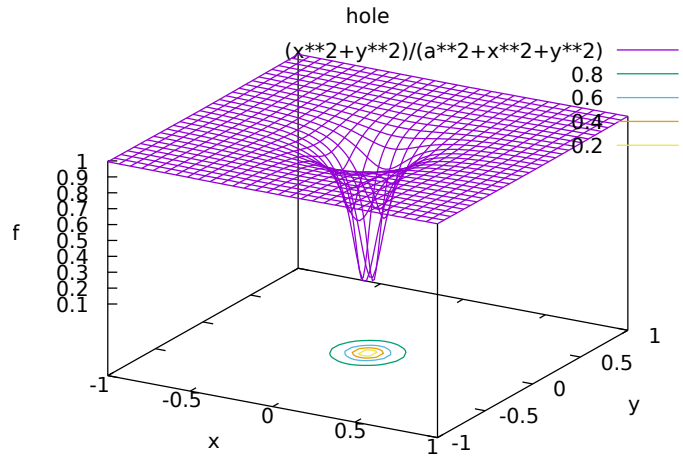
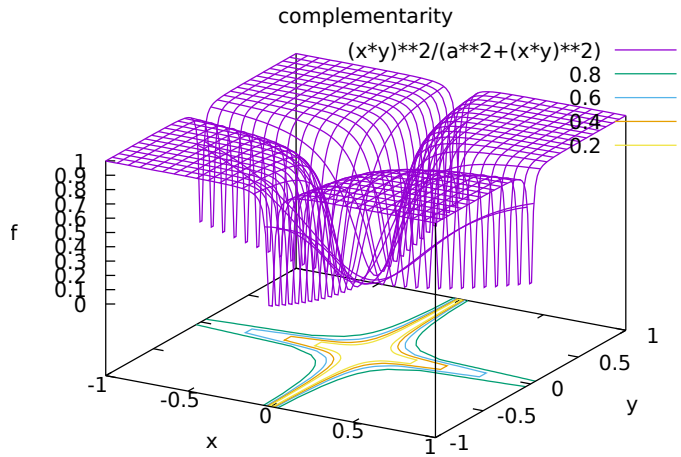
linear with square ineq penalty: $-x - \mu \log(-x)$





Forsyth: $x^2/(a^2+x^2)$





Complementarity with Forsyth: $(xy)^2/(a^2+(xy)^2)$