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**Assignment 3 - Solution**

**[Please insert your name]**

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**Exercise 1: Unconstrained Optimization of a Quadratic Problem**

**Exercise 2: Constrained Optimization with Parametrization**

**Exercise 3: Optimization on the Unit Circle**

(a)

(b)

(c)

**Exercise 4: Lagrange Multipliers and Bordered Hessian**

(a)

(b)

(c)

**Exercise 5: An Application to Economics**

(a)

(b)

(c)

**Exercise 6: Maximisation Using the KKT Conditions**