1 Unconstrained Optimization

- Convex function: Local minimum = global minium. If the objective funciton and the feasible region are both convex, then any local solution of the problem is a global solution.
- Conditions for minimum:
  1. $\nabla f(x^*) = 0$
  2. $\nabla^2 f(x^*)$ is positive definite
- $(y^T A y > 0)$ for all $y \neq 0$ equal:$(\lambda_i > 0)$