Please attach your code as appendix to this problem.

quadprog

qp(P, q[, G, h[, A, b]])

$_{x \in R^n}$ $(1/2)x^T Px +$ $q^T x$ $subjecttoGx \preceq$ h $Ax =$ b $P \in$ $R^{n \times n}, q \in$ $R^n, G \in$ $R^{m_1 \times n}, h \in$ $R^{m_1}, A \in$ $R^{m_2 \times n}, b \in$ R^{m_2} $\preceq$ $a \preceq$ b $a, b \in$ R^n $a_i \leq$ $b_i \forall i =$ $1, 2, ..., n$ $\min_{w,\xi,\rho}$ $\frac{1}{2}||w||_2^2 +$ $\frac{1}{2}b^2 -$ $\rho +$ $\frac{\lambda}{2}\sum_{i=1}^n \xi_i^2$ $subjecttoy_i(w^T x_i +$ $b) \geq$ $\rho -$ $\xi_i, i =$ $1, , n$ **??** $\lambda =$ 1 $\lambda =$ 10 $R^{100 \times 2}$ $R^{100 \times 1}$ A cvxopt.matrix(A)

Answer:

$\vec{\alpha}$ $\frac{1}{2}||\sum_{i=1}^n \alpha_i y_i \vec{x}_i||_2^2 + \frac{1}{2}(\sum_{i=1}^n \alpha_i y_i)^2 + \frac{1}{2\lambda}\sum_{i=1}^n \alpha_i^2$

$\sum_{i=1}^n \alpha_i = 1$

$\alpha_i \geq 0$

$\vec{\alpha}$

$X = [\vec{x}_1, \vec{x}_2, \ldots, \vec{x}_n]^T$

$Y = \begin{bmatrix} y_1 & 0 \ldots 0 \\ 0 & y_2 \ldots 0 \\ & \\ 0 & 0 \ldots y_n \end{bmatrix}$

(1)

$P = Y^T X X^T Y + \vec{y}\vec{y}^T + I/\lambda$

$\vec{q} = \vec{0}$

$G = -I$

$h = \vec{0}$

$A = [1, 1, \ldots, 1]$

$y =$
-1
Answer:
??
[**4**
points]
λ
Answer:
$\lambda =$
1
$\lambda =$
10
$\lambda =$
100
$\lambda =$
1000
[**4**
points]
$\lambda =$
1
$\lambda =$
10
Answer:
λ
λ
$\lambda =$
10
$\lambda =$
1
$\lambda =$
100
$\lambda =$
1000