Spoken Tutorial, IIT Bombay
https://spoken-tutorial.org

Scilab - FOSSEE Optimisation Toolbox
Quadratic optimisation - Assignment

Assignment I

As an assignment:

$$f(x) = \frac{1}{2}x_1^2 + x_2^2 - x_1 x_2 - 2x_1 - 6x_2$$

subject to:

$$x_1 + x_2 \leq 2$$
$$-x_1 + 2x_2 \leq 2$$
$$2x_1 + x_2 \leq 3$$
$$0 \leq x_1 \leq \infty$$
$$0 \leq x_2 \leq \infty$$

Assignment II

Solve the following problem:

$$f(x) = x_1^2 + x_2^2 + x_3^2 + x_4^2 + x_5^2 - 8x_1$$
$$-2x_2 - 3x_3 - x_4 - 2x_5$$

subject to:

$$x_1 + x_2 + x_3 + x_4 + x_5 \leq 400$$
$$x_1 + 2x_2 + 2x_3 + x_4 + 6x_5 \leq 800$$
$$2x_1 + x_2 + 6x_3 \leq 200$$
$$x_1, x_2, x_3, x_4, x_5 \in \mathbb{Z}$$