- Quadratic programming involves optimization problems with a **quadratic** objective and **linear** constraints.
- SVM training is an optimization problem in that we are maximizing the **margin**.
- Lagrangian multipliers are used to **unify the objective and constraints into a single formula**.
- In the context of SVMs, a kernel function is used to **compute the dot products of transformed vectors from the original vectors (that is, without computing the transformed vectors themselves)**.
- Soft margin classification refers to a variation on support vector machines where **we allow some training data points to be on the wrong side of the margin**.