

Part 1

We will use a linear classifier (e.g. FLD) to classify some data, and need to determine for what types of data distributions it will be useful to apply PCA beforehand.

Generate a dataset that satisfies each of the following conditions:

- A. Classification performance is bad, but gets better when PCA is applied.
- B. Classification performance is bad, and PCA has little effect.
- C. Classification performance is good, and PCA has little effect.
- D. Classification performance is good, but gets worse when PCA is applied.

Use the included template `hw4_template.mlx` (with helper function `evaluatePca.m`).