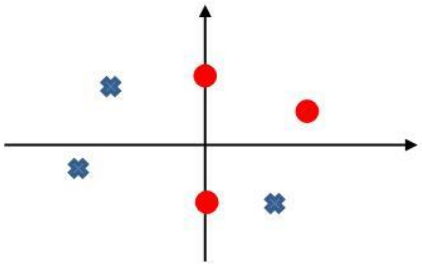
Discussion 1

1) Predict a type of behaviour (qualitatively) of the perceptron learning rule for the given problem



2) How can we check linear separability in high-dimensional spaces?

3) For problems that are not linearly separable, delta rule converges while perceptron learning does not terminate. Please modify perceptron learning to compute the linear separation with the highest classification accuracy?

4) In what sense is Hebbian learning (biologically motivated) local? Is perceptron learning local too?

Discussion 2

1) Do you need an iterative delta rule to find the “best” linear separation?

2) What effect, if any, do initial conditions (initial weights, order of samples etc.) have on perceptron’s separating hyperplane found with an online delta rule?

3) How would you approach classifying the following datasets into two classes with 100% accuracy?