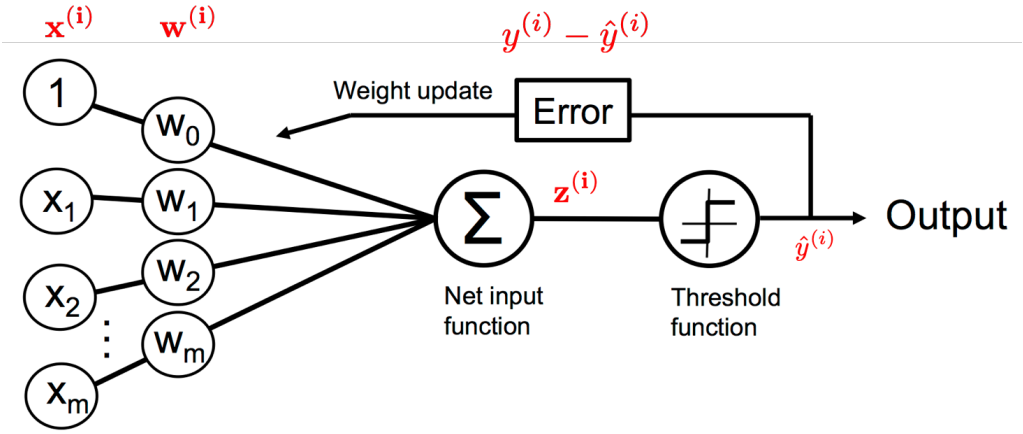
HW1

1. For the small classic dataset Iris (https://archive.ics.uci.edu/dataset/53/iris) from UCI machine learning repository, consider to use a simple perceptron model to build a classifier for evaluation. We use all four parameters (sepal length, sepal width, petal length, petal width) for model features to classify two species (Setosa, Versicolor).



   (a) Use IEEE 754 binary16 format for all the numbers in the model to build a classifier and evaluate the performance.
   (b) To consider only the number representation, how can you simplify and accelerate the training process?
   (c) Design an optimized inferencing model with reduced complexity and computation acceleration. (accuracy degradation can be tolerated within 1% compared with floating-point model)