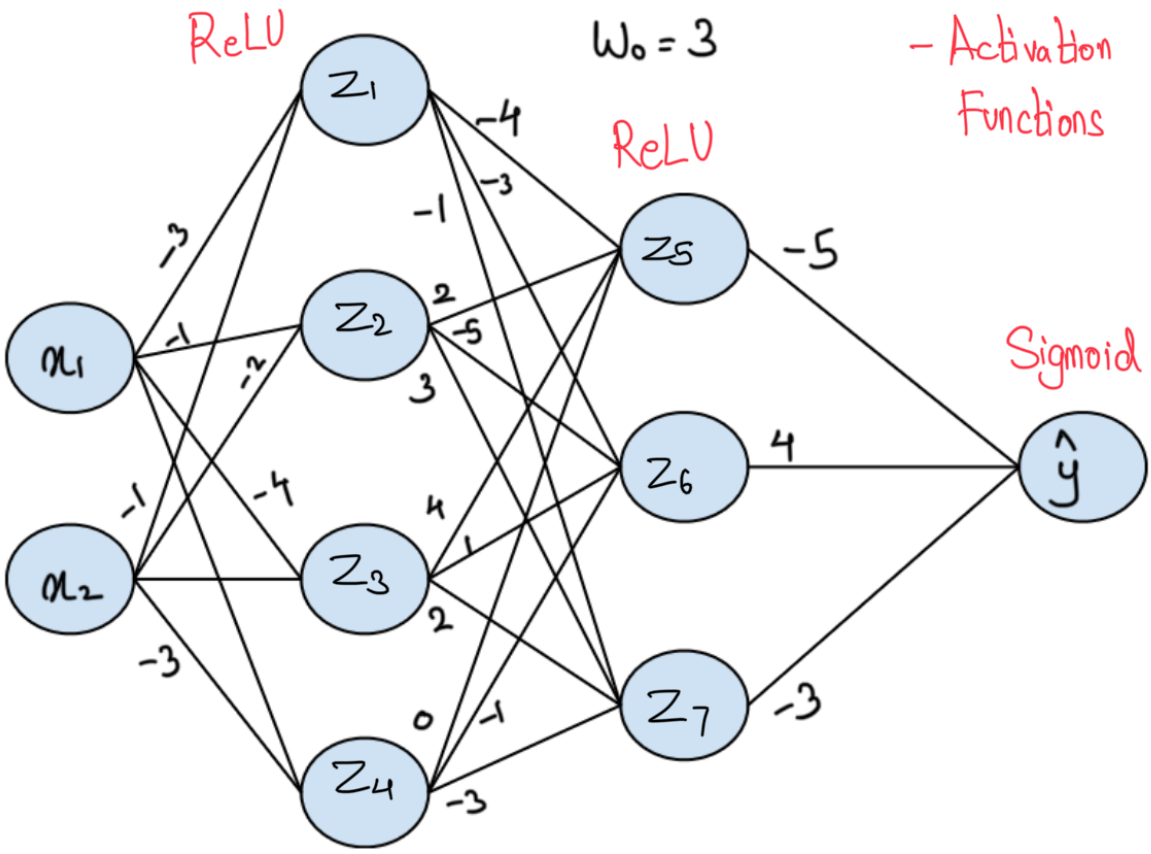
Assignment 1.1

Estimate the value of ybar for first iteration in the following neural network



Assignment 1.2

Problem Statement

For any organization, even the slightest chance of financial risk can not be ignored. Organizations conduct regular inspections on their expenditures and revenue to make sure that they do not fall below the critical limit. In this assignment, you as a data scientist must use the given data to predict whether an organization is under a possible financial risk or not.

Given are 7 distinguishing factors that can provide insight into whether an organization may face a financial risk or not. Your objective as a data scientist is to build a machine learning model that can predict if an organization will fall under the risk using the given features.

Data Link:

https://www.kaggle.com/datasets/manukulamkombil/machinehack-financial-risk-prediction

Task:

1. Perform EDA and preprocessing as required.
2. Create a dense neural network using Tensorflow with 3 hidden layers, and 1 output neuron with sigmoid activation.
3. Fit dropout layer with Early stopping, use SGD optimizer and binary cross-entropy.
4. Calculate AUC-ROC score for above DNN on a test set.
5. Create a dense neural network with 2 output neurons and softmax activation.
6. Calculate Log loss score for above DNN on a test set.