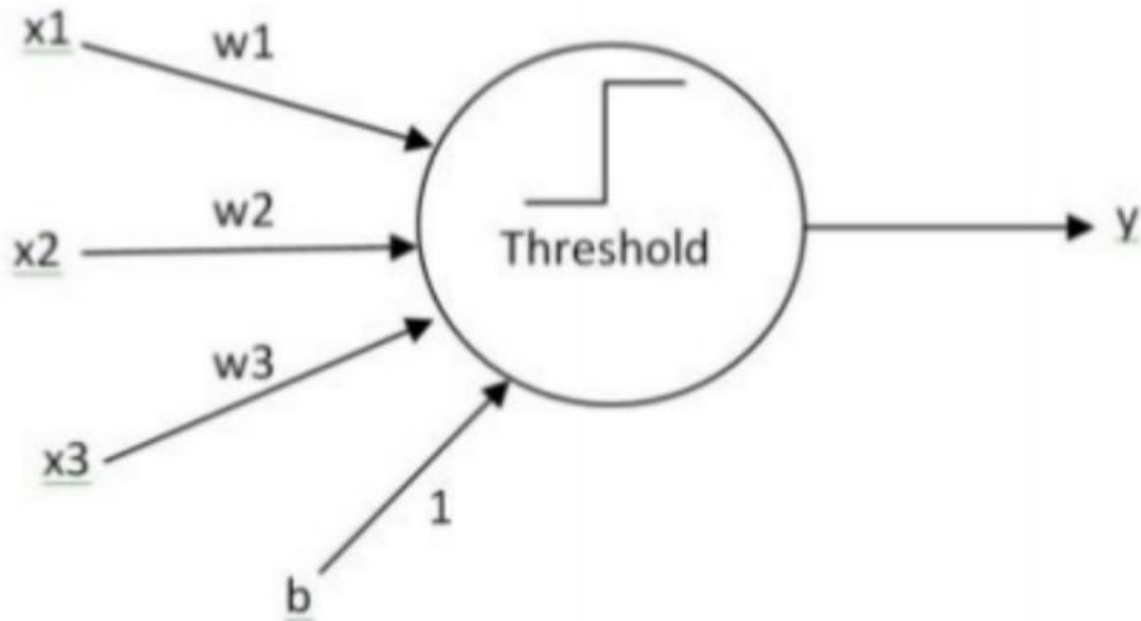


Consider the following network:



In this network we can compute $y = f(\sum_{i=1}^3 w_i x_i + b)$, where f is a threshold function with $t = 0$. Your task is to write a program that could compute weights. Assume update rule for w_i ,

$$\begin{cases} w_i = w_i + \varepsilon, & \text{if } y < t \\ w_i = w_i - \varepsilon, & \text{if } y > t \end{cases}$$

Find weights for input $x_1 = 1$, $x_2 = 0$, $x_3 = 1$, $t = 0$. Set bias b as a random value between 0 and 0.2 in the initialization, let ε be a small value (e.g. 0.1) and initialize weights to be a random values between -1 and 1. Update weights iteratively until $y = t$. Output final weights to the consol.

Submission

Please zip all your files and submit them through Moodle before the deadline.

Late submissions will lose 20 points for each day.

Labs should be completed individually. In the event that academic misconduct such as plagiarism or cheating is discovered, the student will receive no credit for the work, and the event reported to the Dean of your school. Please consult the Academic Integrity Statement given in the syllabus for more details about academic honesty.