AI Without Borders

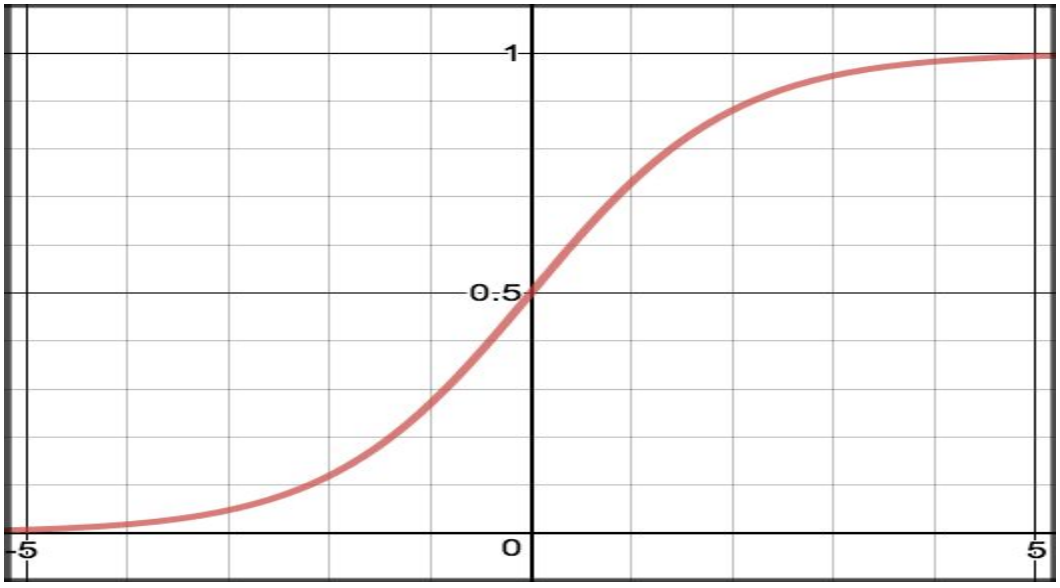
Set II

Note: You have three questions and the level of difficulty **increases** per question. Please check the mock notebook provided to get more color on how your deliverable needs to be structured.

All the data you need can be found at this link:
https://github.com/GaganaB/AI_Without_Borders/tree/master/Set_2/Train

Question 1:

Question: Given a set of numbers, write a formula so that the output values adhere to the structure of the graph below



Input: an array of 10000 random numbers
Output: an array of 10000 numbers after the formula is applied.
Hint: There are people who think something of nothing is half?
Expected Code and Output: Code should take in a file like <input_file_name>.txt that contains 10000 numbers, line separated and return an array with your formula applied. Your test_function (mock in the sample notebook) should take in file like random_numbers.txt that contains 10000 numbers and return your output array

Question 2:

Question: Given an image and an object, find the location of the object in the image. (phone in this case)
Input: Image with object in it
Output: Normalized x and y coordinates of the object location
Hint: Greyscale. Lines. Horizontal. Vertical. Object. Lines. Horizontal. Vertical. Point. Pick.
Expected Code and Output: Code should take in a <test_image>.jpg file and return the normalized x and y coordinates of the object location. Your test_function (mock in the sample notebook) should take in an image file like image.jpg and return the normalized x an y coordinates of the object location

Question 3:

Question: Given a set of 100 unlabeled images of people, cluster them into two clusters - men, and women.
Input: A set of images.
Output: Their cluster labels, male or female.
Hint: You know how to do it. Teach a computer I guess.
Expected Code and Output: Code should take in file like <test_image>.jpg and return a cluster label - male or female for each image. Your test_function should take in an image file like image.jpg and return respective cluster labels.