CS499 Project 1
Gradient Descent

By: Bradley Barber (bmb534), Tyler Boice (tmb463),
Benjamin Peterson (bmp262)

Project Link: https://github.com/tylerboice/CS499-Project1/
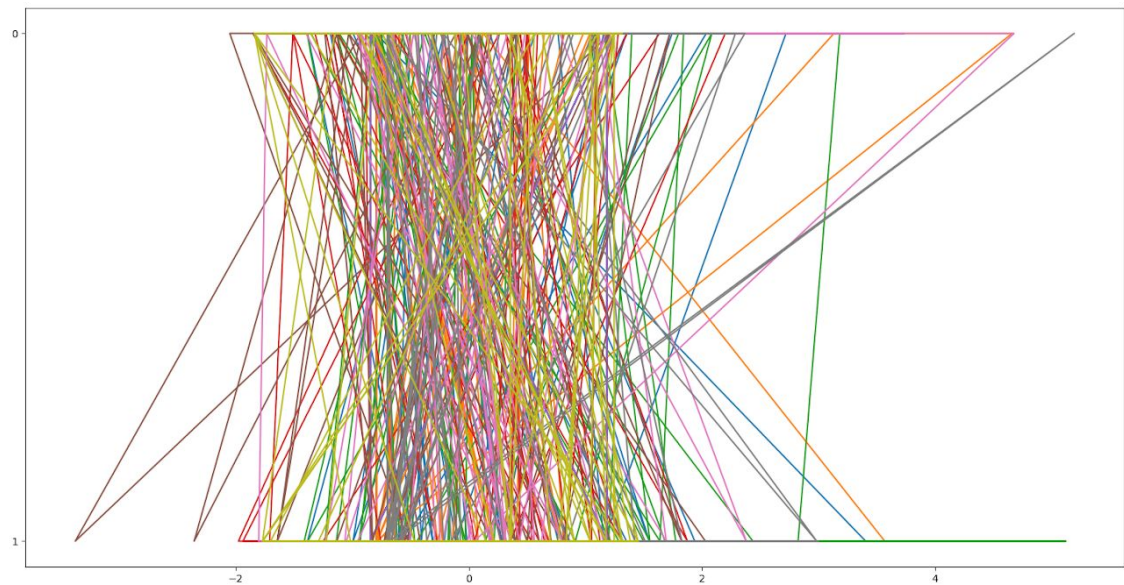
DATA SET 1 (Essay Heart):

y

Sets	Total Samples
Test	920
Train	2760
Validation	920

Most frequent class: train

GradientDescent step value=0.1; maxIterations=500

DATA SET 2 (Spam):

y

Sets	Total Samples
Test	93
Train	277
Validation	92

Most frequent class: train

GradientDescent step value=0.1; maxIterations=500

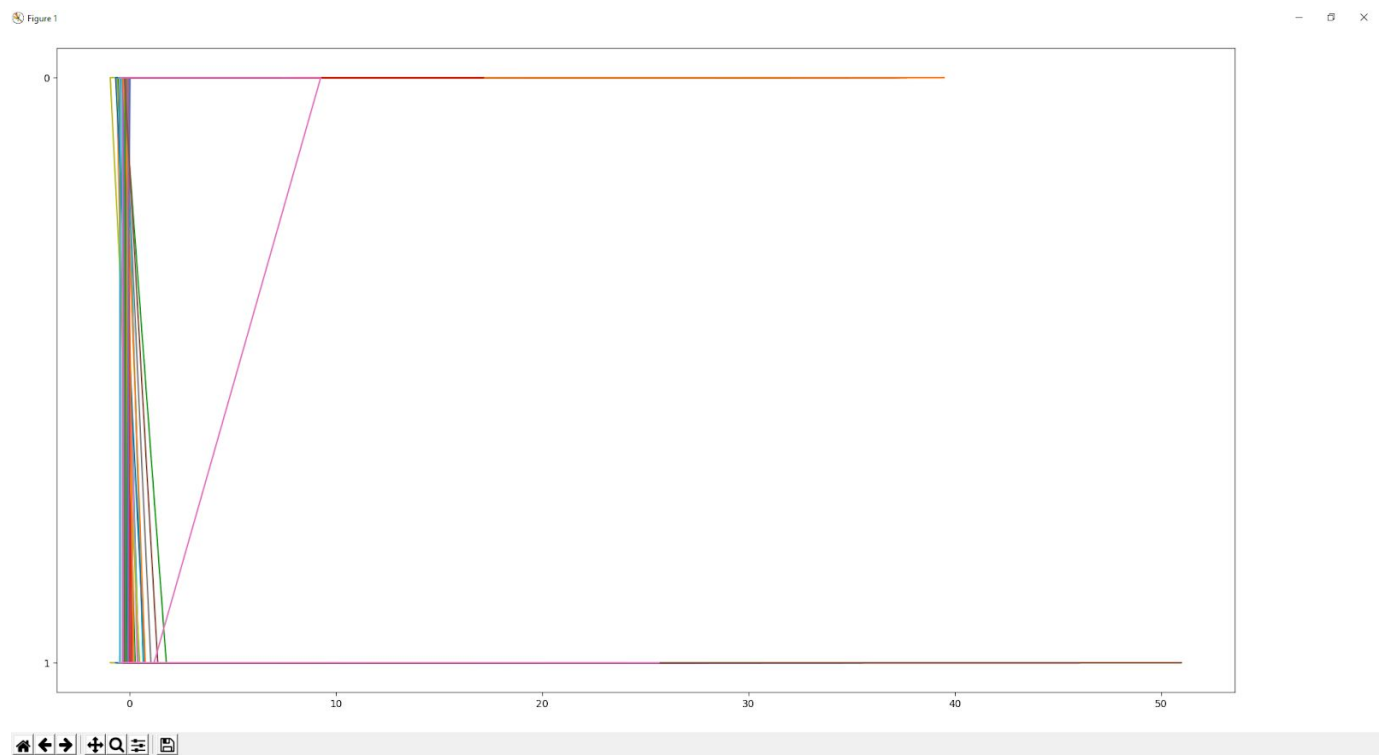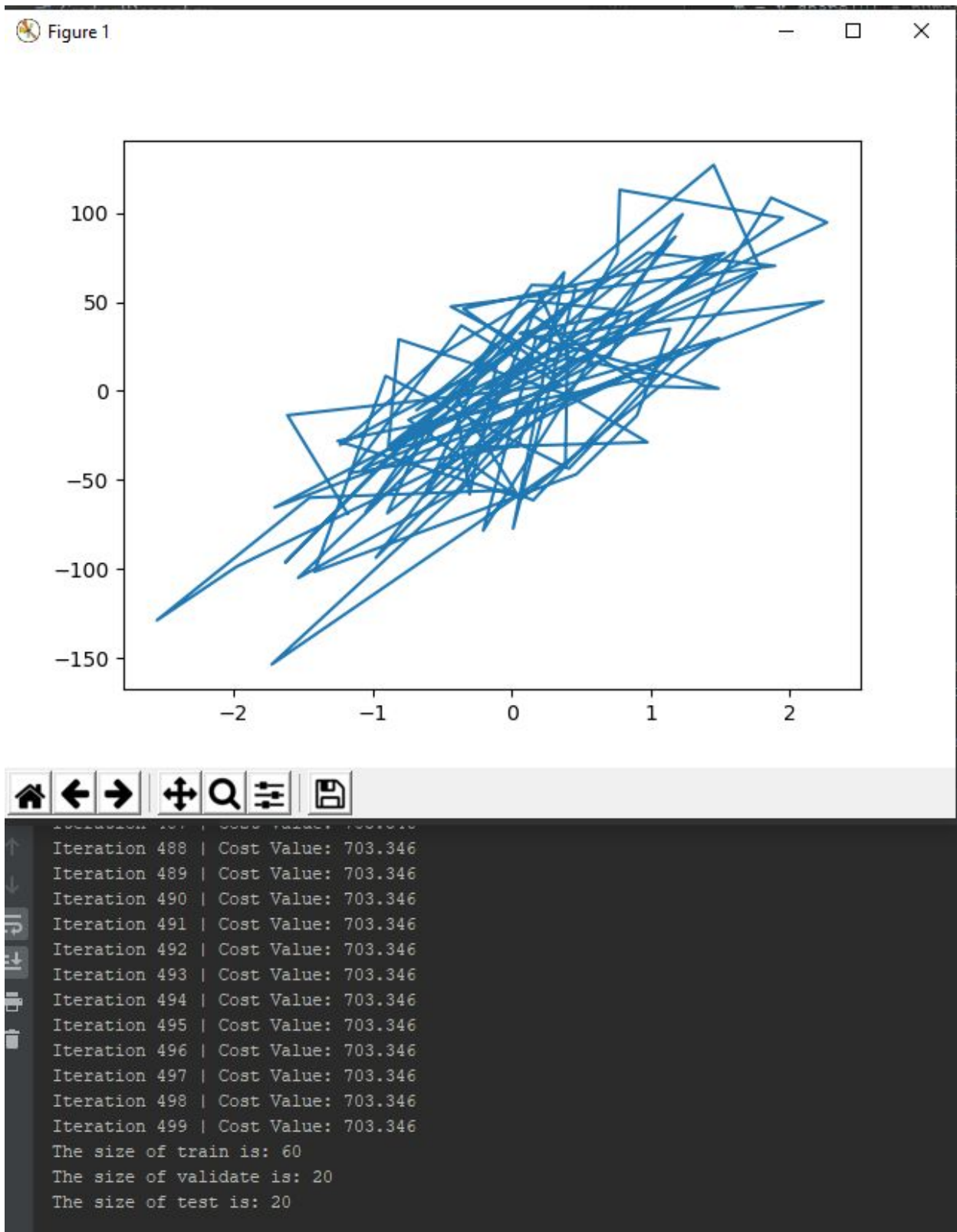**DATA SET 3 (Zip Train):**

y

Sets	Total Samples
Test	X
Train	X
Validation	X

Most frequent class: X

GradientDescent step value=0.1; maxIterations=500

Graph: X

Sample output using randomly generated regression set:

Iteration 488 | Cost Value: 703.346
Iteration 489 | Cost Value: 703.346
Iteration 490 | Cost Value: 703.346
Iteration 491 | Cost Value: 703.346
Iteration 492 | Cost Value: 703.346
Iteration 493 | Cost Value: 703.346
Iteration 494 | Cost Value: 703.346
Iteration 495 | Cost Value: 703.346
Iteration 496 | Cost Value: 703.346
Iteration 497 | Cost Value: 703.346
Iteration 498 | Cost Value: 703.346
Iteration 499 | Cost Value: 703.346
The size of train is: 60
The size of validate is: 20
The size of test is: 20

Issues:

-Train Zip could not be found as a file with comma separations

  -file unreadable

-Couldn't normalize type values between gradient values and plotting, making it impossible to generate some of the graphs

-Couldn't get arrays of the same shape to subtract with numpy