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Problem Set 3

1. a) See ps3.py for code

A black background with white text

Description automatically generated

b) See ps3-1-b.png for scatter plot

A graph of blue dots

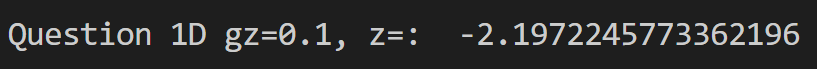
Description automatically generated

c) See ps3.py for code

d) See sigmoid.py for sigmoid function code, ps3-1-c.png for sigmoid plot

A graph with a line

Description automatically generated



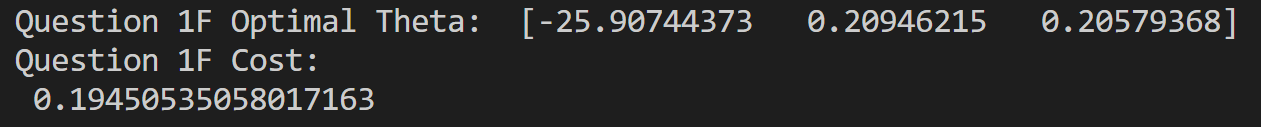
Sigmoid output reaches 0.1 at around z = -2.2

e) See costFunction.py and gradFunction.py for cost and gradient implementations, ps3.py for other code

Cost J for toy data set:



f) See ps3.py for code



g) See ps3-1-f.png for scatter plot + learned line, ps3.py for code

A red line with blue dots

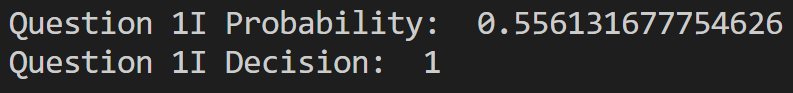
Description automatically generated

h) See ps3.py for code

A black background with white letters

Description automatically generated

i) See ps3.py for code



Decision: Admitted ^

2. a) See ps3.py for code

A black background with white numbers and symbols

Description automatically generated

b) See ps3-2-b.png for plot, and ps3.py for code

A graph with blue dots and white text

Description automatically generated