Jon Organ

CS677

Homework 8, Linear Models

**Question 1:**

Saving Q1 graph...

A graph with lines and numbers

Description automatically generated

**Question 2:**

For year 2, using a 1st degree polynomial function with a W value of 9 resulted in an accuracy of 53.66%

For year 2, using a 2nd degree polynomial function with a W value of 7 resulted in an accuracy of 62.79%

For year 2, using a 3rd degree polynomial function with a W value of 10 resulted in an accuracy of 40.0%

**Question 3:**

1st degree polynomial confusion matrix:

Predicted Green Red

Actual

Green 14 9

Red 10 8

2nd degree polynomial confusion matrix:

Predicted Green Red

Actual

Green 17 8

Red 8 10

3rd degree polynomial confusion matrix:

Predicted Green Red

Actual

Green 4 19

Red 5 12

**Question 4:**

Starting with $100, trading results by polynomial degree and W\*:

1st degree: W\* = 9, final balance = $63.77

2nd degree: W\* = 7, final balance = $164.56

3rd degree: W\* = 10, final balance = $90.46