

RUBRIC FOR PORTFOLIO PIECE 1

Standard	Meets or exceeds standard	Approaching standard	Far below standard
APCSP DAT-2.D. Extract information from data using a program.	The piece contains meaningful visualizations of data originally stored in a CSV file. Labels, titles, and other features of the visualizations contribute to a reader's ability to summarize and interpret the data.	The piece contains meaningful visualizations of data originally stored in a CSV file. Weak choices of labels, title, or other features partially obscure the meaning of the data.	The piece does not contain meaningful data visualizations.
NYS CS/DFLS 9-12.CT.3. Refine and visualize complex datasets to tell different stories with the same dataset.	The piece contains meaningful interpretations of data visualizations. The piece contains reasonable explanations for the design choices leading to the visualizations.	The piece contains meaningful interpretations of data visualizations. Some elements of complete explanations for design choices may be incomplete or contain minor errors.	The piece does not contain meaningful interpretations of data visualizations, or several elements of the explanations contain conceptual errors.
NYS NG MLS AI-S.ID.1. Represent data with plots on the real number line. And AI-S.ID.2. Interpret differences in shape, center, and spread in the context of the datasets.	The piece contains a complete explanation of why histograms are a good choice to represent the chosen dataset. The piece contains reasonable commentary on the shape of the distributions.	The piece contains a partial explanation of why histograms are a good choice to represent the chosen dataset. The piece contains reasonable or partially incomplete commentary on the shape of the distributions.	The piece does not explain why histograms are a good choice to represent the chosen dataset. Or, the piece does not contain commentary on the shape of the distributions.

RUBRIC FOR PORTFOLIO PIECE 2

Standard	Meets or exceeds standard	Approaching standard	Far below standard
APCSP DAT-2.C. Identify the challenges associated with processing data.	The piece describes a solution to the challenge of choosing appropriate measures of center and spread for a dataset. The piece contains code addressing the challenges posed by missing values and outliers.	The piece partially describes a solution to the challenge of choosing appropriate measures of center and spread for a dataset. The piece contains code addressing the challenges posed by missing values and outliers.	The piece does address a choice of measures for center and spread, or the piece does not address missing values and outliers.
NYS CS/DFLS 9-12.CT.1. Create a simple digital model that makes predictions of outcomes.	The piece contains a prediction for a typical value based on the model of the histogram together with a measure of center.	The piece contains a partially justified prediction for a typical value based on the model of the histogram together with a measure of center.	The piece does not contain a prediction for a typical value.
NYS NG MLS AI-S.ID.3. Interpret differences in shape, center, and spread in the context of the datasets, accounting for possible effects of extreme data points (outliers).	The piece contains well-reasoned and contextualized explanations of the shape, center, and spread of the data.	The piece contains explanations of the shape, center, and spread of the data that contain minor errors, or are partially incomplete.	The piece does not contain explanations of the shape, center, and spread of the data, or these explanations contain several conceptual errors.

RUBRIC FOR PORTFOLIO PIECE 3

Standard	Meets or exceeds standard	Approaching standard	Far below standard
APCSP DAT-2.A. Describe what information can be extracted from data.	The piece contains an explanation of insights gained from grouping the data and comparing the center, shape, and spread of each group.	The piece contains an explanation of insights gained from grouping the data and comparing the center, shape, and spread of each group. The explanation may contain minor errors or omissions.	The piece does not contain an explanation of insights gained from grouping the data and comparing the center, shape, and spread of each group. Or, the explanation contains several conceptual errors.
APCSP DAT-2.E. Explain how programs can be used to gain insight and knowledge from data.	The piece contains a demonstration of how Python and matplotlib can be used to gain insight and knowledge from data.	The piece contains a demonstration of how Python and matplotlib can be used to gain insight and knowledge from data. The code may contain minor errors or omissions.	The piece does not contain a demonstration of how Python and matplotlib can be used to gain insight and knowledge from data. Or, the code contains several major errors or omissions.
NYS CS/DFLS 9-12.CT.3. Refine and visualize complex datasets to tell different stories with the same dataset.	The piece builds on the interpretation begun in Pieces 1 and 2 by visualizing each group within a dataset. These visualizations by group contribute to detailed explanations of the data.	The piece builds on the interpretation begun in Pieces 1 and 2 by visualizing each group within a dataset. These visualizations by group contribute to detailed explanations of the data. These explanations may contain minor errors or omissions.	The piece does not build on the interpretation begun in Pieces 1 and 2, because visualizations by group contain conceptual errors or major omissions. Or, no new insight was described based on the group histograms.