Instructions:

Evaluate the homework against the outlined criteria in the below rubric, assigning a rating to each criterion. Add points earned across all criteria and convert the total points to a letter grade, assigning a “+” or “-” letter grade designation at your discretion.

A (+/-)	90+	C (+/-)	40-64	F (+/-)	<15
B (+/-)	65-89	D (+/-)	15-39		

Notes:

The deployed assignment utilizes the **Pandas** library to analyze 1 of 2 challenges. Only one assignment will be accepted for grading. The source code should also be deployed to **Github** or **Gitlab**.

Rubric for Heroes Of PyMoli:

	Mastery 20 points	**Approaching Mastery 15 points**	**Progressing 10 points**	**Emerging 5-0 points**	**Incomplete**
Expected output displayed	Output for Pymoli contains all: ✓ Total Players ✓ Purchase Analysis (Total) ✓ Gender Demographics ✓ Purchase Analysis (Gender) ✓ Age Demographics ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items ✓ Most profitable Items	Output for Pymoli contains at least 7: ✓ Total Players ✓ Purchase Analysis (Total) ✓ Gender Demographics ✓ Purchase Analysis (Gender) ✓ Age Demographics ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items ✓ Most profitable Items	Output for Pymoli contains at least 5: ✓ Total Players ✓ Purchase Analysis (Total) ✓ Gender Demographics ✓ Purchase Analysis (Gender) ✓ Age Demographics ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items ✓ Most profitable Items	Output for Pymoli contains 2 or fewer: ✓ Total Players ✓ Purchase Analysis (Total) ✓ Gender Demographics ✓ Purchase Analysis (Gender) ✓ Age Demographics ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items ✓ Most profitable Items	No submission was received -OR- Submission was empty or blank -OR- Submission contains evidence of academic dishonesty
Functions used on DataFrames	The following functions are used on DataFrames and produce correct results: ✓ Mean ✓ Sum ✓ Count	The following functions are used on DataFrames and produce varying results: ✓ Mean ✓ Sum ✓ Count	Two of the following functions are used on DataFrames to produce varying results: ✓ Mean ✓ Sum ✓ Count	One or fewer of the following functions are used on DataFrames to produce varying results: ✓ Mean ✓ Sum ✓ Count	
	GroupBy is used in Pymoli in determining the following:	GroupBy is used for Pymoli in determining at least 3 of the	GroupBy is used for Pymoli in determining at least 2 of the	GroupBy is used for Pymoli in determining 1 or fewer of the	

GroupBy used	✓ Purchase Analysis (Gender) ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items	following: ✓ Purchase Analysis (Gender) ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items	following: ✓ Purchase Analysis (Gender) ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items	following: ✓ Purchase Analysis (Gender) ✓ Purchasing Analysis (Age) ✓ Top Spenders ✓ Most Popular Items	
Cut method used to create new series of binned data	Pymoli data was cut and binned for both correctly: ✓ Age Demographics ✓ Purchasing Analysis (Age)	Pymoli data was cut and binned for one correctly: ✓ Age Demographics ✓ Purchasing Analysis (Age)	Pymoli data attempted to cut and binned for one with errors: ✓ Age Demographics ✓ Purchasing Analysis (Age)	Pymoli data was either not attempted or was attempted to cut and bin but produces no results: ✓ Age Demographics ✓ Purchasing Analysis (Age)	
Written Report	Presents a cohesive written analysis that: ✓ Draws three correct conclusions from the data for Pymoli	Presents a cohesive written analysis that: ✓ Draws at least two correct conclusions from the data for Pymoli	Presents a cohesive written analysis that: ✓ Draws at least one correct and one incomplete conclusion from the data for Pymoli	Presents a limited written analysis or no written analysis that: ✓ Incorrect and incomplete conclusion from the data for Pymoli	

Instructions:

Evaluate the homework against the outlined criteria in the below rubric, assigning a rating to each criterion. Add points earned across all criteria and convert the total points to a letter grade, assigning a "+" or "-" letter grade designation at your discretion.

A (+/-)	100-90	C (+/-)	79-70	F (+/-)	< 60
B (+/-)	89-80	D (+/-)	69-60		

Rubric for PyCitySchools:

	Mastery 20 points	Approaching Mastery 15 points	Progressing 10 points	Emerging 5-0 points	Incomplete
Expected output displayed	✓ Output for Pyschool contains all: ✓ District Summary ✓ School Summary ✓ Top Performing Schools (By Passing Rate) ✓ Bottom Performing Schools (By Passing Rate) ✓ Math Score by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	✓ Output for Pyschool contains at least 7: ✓ District Summary ✓ School Summary ✓ Top Performing Schools (By Passing Rate) ✓ Bottom Performing Schools (By Passing Rate) ✓ Math Score by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	✓ Output for Pyschool contains at least 5: ✓ District Summary ✓ School Summary ✓ Top Performing Schools (By Passing Rate) ✓ Bottom Performing Schools (By Passing Rate) ✓ Math Score by Grade ✓ Reading Score by Grade ✓ Scores by School Spending	✓ Output for Pyschool contains 2 or fewer: ✓ District Summary ✓ School Summary ✓ Top Performing Schools (By Passing Rate) ✓ Bottom Performing Schools (By Passing Rate) ✓ Math Score by Grade ✓ Reading Score by Grade ✓ Scores by School Spending	No submission was received -OR- Submission was empty or blank -OR- Submission contains evidence of academic dishonesty
Functions used on DataFrames	The following functions are used on DataFrames and produce correct results: ✓ Mean ✓ Sum ✓ Count	The following functions are used on DataFrames and produce varying results: ✓ Mean ✓ Sum ✓ Count	Two of the following functions are used on DataFrames to produce varying results: ✓ Mean ✓ Sum ✓ Count	One or fewer of the following functions are used on DataFrames to produce varying results: ✓ Mean ✓ Sum ✓ Count	
GroupBy used	GroupBy is used in Pyschools in determining the following: ✓ School Summary ✓ Math Scores by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	GroupBy is used for Pyschools in determining at least 4 of the following: ✓ School Summary ✓ Math Scores by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	GroupBy is used for Pyschools in determining at least 3 of the following: ✓ School Summary ✓ Math Scores by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	GroupBy is used for Pyschools in determining 1 or fewer of the following: ✓ School Summary ✓ Math Scores by Grade ✓ Reading Score by Grade ✓ Scores by School Spending ✓ Scores by School Size ✓ Scores by School Type	
Cut method	Pyschools data was cut and binned	Pyschools data was cut and binned	Pyschools data was cut and binned	Pyschools data was either not	

used to create new series of binned data	for both correctly: ✓ `Scores by School Spending` ✓ `Scores by School Size`	for one correctly: ✓ `Scores by School Spending` ✓ `Scores by School Size`	for one with errors: ✓ `Scores by School Spending` ✓ `Scores by School Size`	attempted or was attempted to cut and bin but produces no results: ✓ `Scores by School Spending` ✓ `Scores by School Size`	
Written Report	Presents a cohesive written analysis that: ✓ Draws two correct conclusions from the data for Pyschools	Presents a cohesive written analysis that: ✓ Draws at least one correct conclusion from the data for Pyschools	Presents a cohesive written analysis that: ✓ Draws at least one complete but incorrect conclusion from the data for Pyschools	Presents a limited written analysis or no written analysis that: ✓ Incorrect and incomplete conclusion form the data for Pyschools	