Create Rubric

82 points

Create your rubric now or come back to it later. You can also make edits to your rubric while grading.

Q1 Honor Code

2 points

Rubric

(e) **UC Berkeley Honor Code**

As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others. By signing my name below, I affirm that all of my answers are my own work, and that I have used no external resources (other than the Data 6 cheat sheet) during this exam.

i. (2.0 pt) Sign your name in the space provided.

1 **+2.0**
Signed Named

2 **+0.0**
Blank

+ Add Rubric Item | Create Group | Ir

Q2 Q1 - True/False

9 points

Q2.1 Q1(a)

1 point

Rubric

(a) (1.0 pt) In the Data 6 context, a *variable* is the same thing as a *name* in Python.

- ○ True
- ○ False

1 **+1.0**
Correct: `False`

2 **+0.0**
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.2 Q1(b)

1 point

Rubric

(b) **(1.0 pt)** The best way to visualize the distributions of two categorical variables is to make a overlaid histogram.

- ○ True
- ○ False

1 +1.0
Correct: `False`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.3 Q1(c)

1 point

Rubric

(c) **(1.0 pt)** `True and 1 == True` evaluates to `True`.

- ○ True
- ○ False

1 +1.0
Correct: `True`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.4 Q1(d)

1 point

Rubric

(d) **(1.0 pt)** Python dictionaries can contain other dictionaries.

- ○ True
- ○ False

1 +1.0
Correct: `True`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.5 Q1(e)

1 point

Rubric

(e) **(1.0 pt)** When using `tbl.join`, the order of the tables affects which rows are included in the joined table.

- ○ True
- ○ False

1 +1.0
Correct: `False`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.6 Q1(f)

1 point

Rubric

(f) **(1.0 pt)** It is easy for a computer to generate truly random numbers.

- ○ True
- ○ False

1 +1.0
Correct: `False`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.7 Q1(g)

1 point

Rubric

(g) **(1.0 pt)** "Raw data" is the purest form of data, untouched by humans.

- ○ True
- ○ False

1 +1.0
Correct: `False`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.8 Q1(h)

1 point

Rubric

(h) (1.0 pt) Table methods like `tbl.join`, `tbl.group` and `tbl.pivot` create copies of the table instead of modifying the original tables.

- ○ True
- ○ False

1 +1.0
Correct: `True`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q2.9 Q1(i)

1 point

Rubric

(i) (1.0 pt) A single row of a table can only contain values from the same data type, but a single column of a table can contain values from multiple different data types.

- ○ True
- ○ False

1 +1.0
Correct: `False`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q3 Q2 - Sunya's Scorebook

8 points

Q3.1 Q2(a)

3 points

Rubric

(a) (3.0 pt) Write a line of code to add a new student, "Eve", who scored 90 in Math, 88 in English, and 80 in History to the `student_scores` dictionary.

1 +3.0
Correct

2 +1.5
`student_scores["Eve"] =`

3 +1.0
Partial Credit: `student_scores["Eve"]:`

4 **+1.5**

Creates subjects and scores as a dictionary: `{"Math": 90, "English": 88, "History": 80}`

5 **+0.5**

Partial Credit: Attempts to create subjects and scor list or array.

6 **+0.0**

Incorrect/Blank

7 **-0.5**

minor syntax error

+ Add Rubric Item | Create Group | Ir

Q3.2 Q2(b)(i)

0.5 points

Rubric

i. Fill in blank (a).

1 **+0.5**

Correct: `0`

2 **+0.0**

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q3.3 Q2(b)(ii)

1.5 points

Rubric

ii. Fill in blank (b).

1 **+1.5**

Correct: `scores.values()` or `scores.keys()`

2 **+1.0**

Partial Credit: `scores` only

3 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q3.4 Q2(b)(iii)

1.5 points

Rubric

iii. Fill in blank (c).

1 +1.5

Correct: `total_score + student[subject]`

2 +1.0

Partial Credit: Accesses the correct score using `student[subject]` or `scores[student][subject]`

3 +0.5

Partial Credit: Attempts to add a value to `total_sc`

4 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q3.5 Q2(b)(iv)

1 point

Rubric

iv. Fill in blank (d).

1 +1.0

Correct: `total_score / len(scores)`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q3.6 Q2(b)(v)

0.5 points

Rubric

v. Fill in blank (e).

1 +0.5
Correct: `average`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4 Q3 - Wildfires

15 points

Q4.1 Q3(a)(i)

1 point

Rubric

Andy wants to investigate the air quality across the US on July 6th. He decides to visualize the distribution of AQIs based on the reported "Sky Condition".

i. **(1.0 pt)** What type of variable is "Sky Condition"?

- ○ Numerical discrete
- ○ Numerical continuous
- ○ Categorical ordinal
- ○ Categorical nominal

1 +1.0
Correct: `Categorical nominal`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.2 Q3(a)(ii)(A)

2 points

Rubric

(a) (b) (c)

A. Fill in blank (a).

1 +2.0
Correct: `hist`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.3 Q3(a)(ii)(B)

1 point

Rubric

B. Fill in blank (b).

1 +1.0

Correct: `"Sky Condition"`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.4 Q3(a)(ii)(C)

1 point

Rubric

C. Fill in blank (c).

1 +1.0

Correct: `density = False`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.5 Q3(a)(iii)(A)

1 point

Rubric

A. (1.0 pt) Aside from the color of each point, how many variables are encoded in this map?

1 +1.0

Correct: `3`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.6 Q3(a)(iii)(B)

3 points

Rubric

B. **(2.0 pt)** Describe how each variable (excluding color) is encoded in the map above.

1 +3.0

Correct:

- Shape of dot - Type of geological/environmental
- X-coordinate - Longitude of event
- Y-coordinate - Latitude of event

2 +1.0

Lists variable #1 and describes how it is encoded

3 +1.0

Lists variable #2 and describes how it is encoded

4 +1.0

Lists variable #3 and describes how it is encoded

5 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q4.7 Q3(b)(i)

6 points

Rubric

(b) **(6.0 points)** **Concerns**

Eunice, who has heard about the AQI app from friends, raises concerns about the AQI tracking project.

i. **(6.0 pt)** Describe 2 concerns Eunice may have about Andy's app relating to privacy, accessibility, trustworthiness or other HCE-related considerations, and their importance.

1 +6.0

Correct: **Describes** 2 appropriate HCE concerns, including but not limited to:

- Privacy (user location)
- Accessibility (price of sensor)
- Trustworthiness (of user input)

2 **+3.0**

Describes only 1 appropriate HCE concern

3 **+1.0**

Only **lists** 1 appropriate HCE concern

4 **+2.0**

Only **lists** 2 appropriate HCE concerns

5 **+0.0**

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5 Q4 - Jonathan has Swiftie Fever

34 points

Q5.1 Q4(a)(i)(A)

1 point

Rubric

A. Fill in blank (a).

1 **+1.0**

Correct: `np.average(album)` or `np.mean(album)`

2 **+0.5**

Uses np.average or np.mean

3 **+0.0**

Blank/Incorrect

+ Add Rubric Item | Create Group | Ir

Q5.2 Q4(a)(i)(B)

1 point

Rubric

B. Fill in blank (b).

1 +1.0
Correct: `0`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | In

Q5.3 Q4(a)(i)(C)

2 points

Rubric

C. Fill in blank (c).

1 +2.0
Correct: `len(album)`

2 +1.0
Partial Credit: Only includes `album`

3 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | In

Q5.4 Q4(a)(i)(D)

1.5 points

Rubric

D. Fill in blank (d).

1 +1.5
Correct: `album.item(index) > average_length`

2 +0.5
Partial Credit: Compares some value to see if it is g
than `average_length`

3 +1.0

Partial Credit: Gets the length of the particular son using `album.item(index)` or `album[index]`

4 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.5 Q4(a)(i)(E)

0.5 points

Rubric

E. Fill in blank (e).

1 +0.5

Correct: Increments `num_long_songs` by 1

2 +0.25

Added 1 to num_long_songs but didn't reassign

3 +0.0

Incorrect/Blank

4 -0.25

Syntax Error

+ Add Rubric Item | Create Group | Ir

Q5.6 Q4(a)(ii)(A)

1 point

Rubric

A. Fill in blank (a).

1 +1.0

Correct: `album`

2 +0.0

Incorrect/Blank

3 -0.5

minor syntax error

+ Add Rubric Item | Create Group | Ir

Q5.7 Q4(a)(ii)(B)

1 point

Rubric

B. Fill in blank (b).

1 +1.0

Correct: `column("Song Length")`

2 +0.0

Incorrect/Blank

3 -0.5

minor syntax error

+ Add Rubric Item | Create Group | Ir

Q5.8 Q4(a)(ii)(C)

1 point

Rubric

C. Fill in blank (c).

1 +1.0

Correct: `where`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.9 Q4(a)(ii)(D)

2 points

Rubric

D. Fill in blank (d).

1 **+2.0**
Correct: `are.above(average_length)`

2 **+1.0**
Partial Credit: Attempts a comparison using `> average_length` or similar

3 **+0.5**
Partial Credit: `average_length` only (*cannot* be com with rubric item #2)

4 **+0.0**
Incorrect/Blank

5 **-0.5**
minor syntax error/partial error

+ Add Rubric Item | Create Group | Ir

Q5.10 Q4(a)(ii)(E)

1 point

Rubric

E. Fill in blank (e).

1 **+1.0**
Correct: `num_rows`

2 **+0.0**
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.11 Q4(a)(iii)

2 points

Rubric

iii. **(2.0 pt)** Next, write a function called `num_long_songs` that takes an album as input, and returns the number of songs that are longer than 300 seconds.

```
def num_long_songs(album):
    return _________________
```

Fill in the blank in the function above.

1 **+2.0**
Correct: `sum(album > 300)`

2 **+1.0**
Partial Credit: Compares some value to `> 300`

3 **+0.0**
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.12 Q4(a)(iv)(A)

1 point

Rubric

A. Fill in blank (a).

1 **+1.0**
Correct: `num_long_songs(album1)`

2 **+0.5**
Half credit for `num_long_songs(red_album)`

3 **+0.0**
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.13 Q4(a)(iv)(B)

1 point

Rubric

B. Fill in blank (b).

1 **+1.0**
Correct: `num_long_songs(album2)`

2 **+0.5**
Half credit: `num_long_songs(folklore_album)`

3 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.14 Q4(a)(iv)(C)

1 point

Rubric

C. Fill in blank (c).

1 +1.0

Correct: `long_songs_album1 > long_songs_album2` reversed as long as blanks (d-f) are filled out appropriately)

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.15 Q4(a)(iv)(D)

1 point

Rubric

D. Fill in blank (d).

1 +1.0

Correct: `album1_name +`

2 +0.5

Partial Credit: `album1_name` only

3 +0.5

Partial Credit: `"Red (2012)" +`

4 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.16 Q4(a)(iv)(E)

1 point

Rubric

E. Fill in blank (e).

1	+1.0	Correct: `long_songs_album1 < long_songs_album2` reversed as long as blanks (c-f) are filled out appropriately)
2	+0.0	Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.17 Q4(a)(iv)(F)

1 point

Rubric

F. Fill in blank (f).

1	+1.0	Correct: `album2_name +`
2	+0.5	Partial Credit: `album2_name` only
3	+0.5	Partial Credit: `"Folklore (2020)" +`
4	+0.0	Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.18 Q4(b)(i)

1 point

Rubric

i. **(1.0 pt)** Jonathan believes that, in general, Taylor Swift performing in a city gives that city an immediate economic boost in the form of more hotel, restaurant, and shopping purchases. To test his theory, he wants to create a visualization showing the economic trends over months for particular cities. What type of visualization would be most appropriate here?

- ○ Scatter Plot
- ○ Histogram
- ○ Line Plot
- ○ Bar Chart

1 +1.0
Correct: `Line Plot`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.19 Q4(b)(ii)(A)

1 point

Rubric

A. Fill in blank (a).

1 +1.0
Correct: `concerts`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.20 Q4(b)(ii)(B)

1 point

Rubric

B. Fill in blank (b).

1 +1.0
Correct: `select`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.21 Q4(b)(ii)(C)

1 point

Rubric

C. Fill in blank (c).

1 +1.0
Correct: `group`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.22 Q4(b)(ii)(D)

1 point

Rubric

D. Fill in blank (d).

1 +1.0
Correct: `"City"`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.23 Q4(b)(ii)(E)

1 point

Rubric

E. Fill in blank (e).

1 +1.0
Correct: `apply`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.24 Q4(b)(ii)(F)

1 point

Rubric

F. Fill in blank (f).

1 +1.0
Correct: "Start Date"

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.25 Q4(b)(ii)(G)

1 point

Rubric

G. Fill in blank (g).

1 +1.0
Correct: "Combined Attendance"

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.26 Q4(b)(ii)(H)

1 point

Rubric

H. Fill in blank (h).

1 +1.0
Correct: "Population (Millions) mean"

2 +0.5
Partial Credit: "Population (Millions)"

3 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q5.27 Q4(b)(ii)(I)

1 point

Rubric

I. Fill in blank (i).

1 +1.0
Correct: `with_column`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | In

Q5.28 Q4(b)(ii)(J)

1 point

Rubric

J. Fill in blank (j).

1 +1.0
Correct: `normalized_attendance`

2 +0.0
Incorrect/Blank

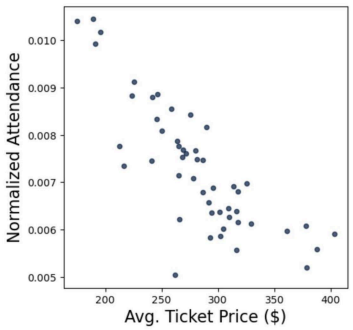
+ Add Rubric Item | Create Group | In

Q5.29 Q4(b)(iii)

3 points

Rubric

iii. **(3.0 pt)** Finally, Jonathan uses the `concert_attendance` table to generate the following scatter plot showing the relationship between average ticket price and the normalized concert attendance. Does the scatter plot confirm Jonathan's suspicions? Why or why not?



1 +3.0
Correct: "Yes the scatter plot justifies Jonathan's suspicions because..." (includes valid explanation c scatter plot trend)

2 +1.0
Partial Credit: Only states that Jonathan's suspicior justified, but does not explain why

3 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6 Q5 James' Dinner Decider

14 points

Q6.1 Q5(a)(i)

1 point

Rubric

(h) (i)

i. Fill in blank (a).

1 +1.0
Correct: `restaurants.column('Restaurant')`

2 +0.5
Partial Credit: `restaurants.select("Restaurant")` instead of `column`

3 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.2 Q5(a)(ii)

1 point

Rubric

ii. Fill in blank (b).

1 +1.0
Correct: `days`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.3 Q5(a)(iii)

2 points

Rubric

iii. Fill in blank (c).

1 +2.0
Correct: `i == "Tuesday"`

2 +1.0
Partial Credit: Attempts to check for `"Tuesday"`

3 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.4 Q5(a)(iv)

0.5 points

Rubric

iv. Fill in blank (d).

1 +0.5
Correct: `append`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.5 Q5(a)(v)

0.5 points

Rubric

v. Fill in blank (e).

1 +0.5
Correct: `choices`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | In

Q6.6 Q5(a)(vi)

1 point

Rubric

vi. Fill in blank (f).

1 +1.0
Correct: `choice`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | In

Q6.7 Q5(a)(vii)

1 point

Rubric

vii. Fill in blank (g).

1 +1.0
Correct: `restaurant_names`

2 +0.0
Incorrect/Blank

3 -0.5
Put quotes around restaurant_names

+ Add Rubric Item | Create Group | In

Q6.8 Q5(a)(viii)

0.5 points

Rubric

viii. Fill in blank (h).

1 +0.5
Correct: `append`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.9 Q5(a)(ix)

0.5 points

Rubric

ix. Fill in blank (i).

1 +0.5
Correct: `random_selection`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.10 Q5(b)(i)

1 point

Rubric

James *really* wants to eat at Cholita Linda, but still wants Python to make a random selection from a set of five restaurant options: Imm Thai, Noodle Dynasty, Mezzo, Cholita Linda, and La Note.

i. **(1.0 pt)** James chooses a restaurant at random from the restaurant options five hundred times. How many times should we expect "Noodle Dynasty" to be selected, on average?

- ○ 0
- ○ 100
- ○ 200
- ○ 300

1 +1.0
Correct: `100`

2 +0.0
Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.11 Q5(b)(ii)

1 point

Rubric

ii. **(1.0 pt)** James chooses a restaurant at random from the restaurant options fifty times. Is James guaranteed to select "Cholita Linda" at least once?

- ○ Yes
- ○ No

1 +1.0
Correct: `No`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.12 Q5(b)(iii)(A)

2 points

Rubric

A. Fill in blank (a).

1 +2.0

Correct: `!= "Cholita Linda"`

2 +1.0

Partial Credit: Attempts to form a boolean expressi involving `"Cholita Linda"`

3 +0.5

Partial Credit: Answer involves only `"Cholita Lind`

4 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.13 Q5(b)(iii)(B)

1 point

Rubric

B. Fill in blank (b).

1 +1.0

Correct: `choice`

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | Ir

Q6.14 Q5(b)(iii)(C)

1 point

Rubric

C. Fill in blank (c).

1	+1.0	Correct: `choice`
2	+0.0	Incorrect/Blank

+ Add Rubric Item | Create Group | Im

Q7 Q6 - Eunice's Exciting Bonus Questions

0 points

Q7.1 Q6(a)

0 points

Rubric

(a) **(0.0 pt)** Draw us a picture :)

1	+0.0	:)
2	+0.0	Blank

+ Add Rubric Item | Create Group | Im

Q7.2 Q6(b)

0 points

Rubric

(b) **(0.0 pt)** How was your overall experience in Data 6?

1	+0.0	Hope you enjoyed Data 6!

+ Add Rubric Item | Create Group | Im

Q7.3 Q6(c)

0 points

Rubric

(c) **(0.0 pt)** What is your favorite restaurant in Berkeley?

1 +0.0

+ Add Rubric Item | Create Group | In

Q7.4 Q6(d)

0 points

Rubric

(d) **(0.0 pt)** What is Eunice's favorite TV show?

1 +0.0

Correct: *The Good Place*

2 +0.0

Incorrect/Blank

+ Add Rubric Item | Create Group | In