Quiz 2 - DSC 10, Winter 2025

Full Name:

PID:

Quiz Time: ◯ 3PM ◯ 3:30PM ◯ 4PM ◯ 4:30PM

Instructions:

- This quiz consists of 5 questions. You have a total of 20 minutes to complete it.
- Please write **clearly** in the provided answer boxes; we will not grade work that appears elsewhere. Completely fill in bubbles and square boxes; if we cannot tell which option(s) you selected, you may lose points.

  ◯ A bubble means that you should only **select one choice**.

  ☐ A square box means you should **select all that apply**.
- If your answer is a string, make sure to put it in quotes. If your answer is a float, make sure to include a decimal point.
- You may use one handwritten sheet of notes. No calculators and no computers.

By signing below, you are agreeing that you will behave honestly and fairly during and after this quiz.

Signature:

Version A

Please do not open your quiz until instructed to do so.

The DataFrame `blue_bowl` contains information about orders placed by UCSD students at Blue Bowl, an on-campus eatery specializing in custom bowls. For each order, we have the customer's `"student_id"`, the `"base"` of their bowl, which `"fruit"` they got, and the number of additional toppings, `"num_toppings"`. The first five rows are shown below.

	student_id	base	fruit	num_toppings
0	A49837465	Acai	Strawberries	2
1	A59028374	Matcha	Bananas	6
2	A84920376	Cold Brew	Strawberries	4
3	A95748201	Acai	Strawberries	8
4	A50086724	Matcha	Pineapple	1

Question 1

Fill in the blanks so that the statement below outputs a DataFrame showing the most popular base and fruit combinations in the `blue_bowl` DataFrame, in descending order of popularity.

```
blue_bowl.groupby(__(a)__).__(b)__.sort_values(__(c)__)
```

(a): _____ (b): _____

(c): _____

Question 2

Let `five_bowls` be the smaller DataFrame consisting of only the first five rows of `blue_bowl`.

a) How many rows are in the DataFrame `five_bowls.merge(five_bowls, on="base")`?

◯ 5 ◯ 9 ◯ 11 ◯ 15 ◯ 25 ◯ None of these

b) How many rows are in the DataFrame `five_bowls.merge(five_bowls, on="fruit")`?

◯ 5 ◯ 9 ◯ 11 ◯ 15 ◯ 25 ◯ None of these

Question 3

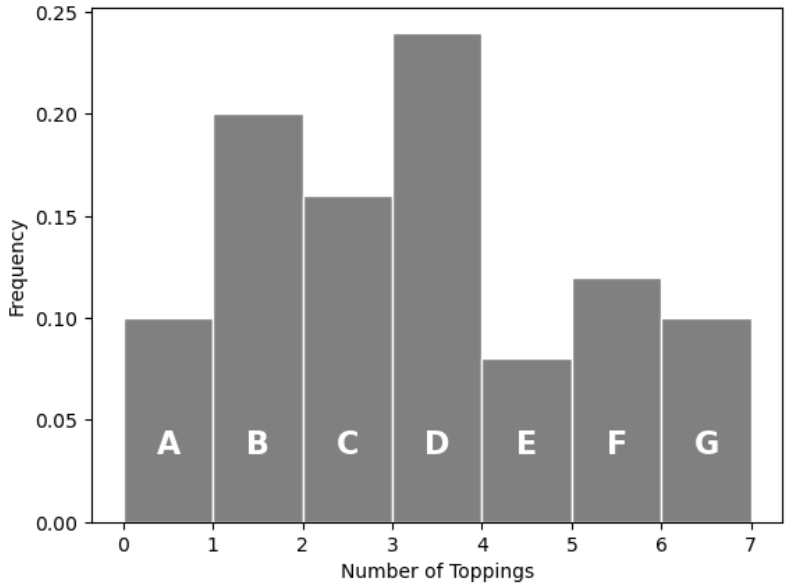
Suppose there are five available fruits: strawberries (red), bananas (yellow), raspberries (red), pomegranate (red), and pineapple (yellow). If Pranav orders a bowl with one fruit and tells you that the fruit is red, what is the probability he **did not get strawberries**?

_____

PID: _____

Question 4

The density histogram below shows the distribution of `"num_toppings"` for 250 unique orders in `blue_bowl`.



a) Kate orders a bowl with exactly **two toppings**. Which bin is her order included in?

◯ A ◯ B ◯ C ◯ D ◯ E ◯ F ◯ G

b) How many **more** orders were there with one topping than orders with no toppings? Give your answer as an integer rounded to the **nearest multiple of 5.**

Question 5

Fill in the body of the function `prep_time` such that both expressions below evaluate to the same Series.

```
blue_bowl.get("num_toppings").apply(prep_time)

1.2 + 0.2 * blue_bowl.get("num_toppings")
```

```
def prep_time(x):
    return
```

Reminders:

- **Write your PID** on the front page and on the top right corner of page 3.
- If your answer is a string, make sure to put it in **quotes**.
- If your answer is a float, make sure to include a **decimal point**.
- Stay in your seat until the quiz is over. No leaving early.