
Quiz 1 - DSC 10, Spring 2026

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.
 - Assume we have already run `import babypandas as bpd` and `import numpy as np`.
-

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 World Cup is a large international soccer tournament that takes place every 4 years. There have been 22 World Cups in total, and the next one is coming up soon in June 2026!

The DataFrame `wc` lists all 22 World Cup winners, in reverse chronological order. We have the name of the winning `country` (string), tournament `year` (int), winning team's `score` (int), and the color of the winning team's `jersey` (string). The last column, `penalty` (bool) is `True` if the game was tied at the end of regular play and the winner was determined by a tiebreaker, called a "penalty shoot-out." The first few rows of `wc` are shown at right.

	country	year	score	jersey	penalty
0	Argentina	2022	3	blue	True
1	France	2018	4	blue	False
2	Germany	2014	1	white	False
3	Spain	2010	1	red	False
4	Italy	2006	1	blue	True

Question 1

Suppose we define `x` as follows.

```
x = wc.get(["year", "score"]).groupby("year").mean().shape[0]
```

Choose the expression below that evaluates to `True`.

☐ `x < wc.shape[0]`
☐ `x == wc.shape[0]`
☐ `x > wc.shape[0]`

Question 2

Fill in the blanks so the expression below evaluates to the name of the country with the most World Cup wins.

```
wc.groupby(__(a)__).__(b)__.sort_values(by=__(c)__, ascending=True).__(d)__
```

(a):		(b):	
(c):		(d):	

Question 3

a) Kate wants to determine how often championships are won in penalty shoot-outs versus won in regular time. Which plot type would best allow her to visualize this information?

☐ scatter plot
 ☐ bar chart
 ☐ line plot

b) Bianca creates a horizontal bar chart to show how times a World Cup was won by a team wearing each jersey color. Based on the provided information, what is the maximum possible length of the "blue" bar? Give your answer as an **integer**.

Question 4

For each expression in the table below, determine the data type of the result or indicate that the expression errors. If it is possible to determine the exact value of the result, write it in the “Value” column; otherwise, leave that column blank.

Expression	Data Type	Value
<code>(np.arange(5) + "5")[-1]</code>	☐ int ☐ float ☐ bool ☐ error	
<code>np.sum(np.arange(1, 9, 3) * 3)</code>	☐ int ☐ float ☐ bool ☐ error	
<code>(wc.shape[1] / wc.get("score").iloc[2])</code>	☐ int ☐ float ☐ bool ☐ error	
<code>(wc.set_index("country"). get("country").iloc[0])</code>	☐ int ☐ float ☐ bool ☐ error	

Question 5

Determine the value of `best` after running the code below.

```
best = "Ronaldo"
a = "it's almost time for the World Cup!"
a = a.split(" ")[0]
m = "message"
m = m.title().replace("age", "i")
best = best[2] + best[-1] + " " + a + " " + m
```

Hint: We can access individual characters from a string in the same way we access individual elements from an array. For example, `"hello"[4]` is `"o"`.

best =

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.