In-class Exercise 10 Results for Simran Mander

Score for this attempt: 8.27 out of 10

Submitted Nov 8 at 11:50pm

This attempt took 1,941 minutes.

Question 1

1 / 1 pts

The iris data set is a built-in data set in R. Some information can be found here://en.wikipedia.org/wiki/Iris_flower_data_set). You can type head(iris) on R console to take a look at the first few rows of this data frame. Each observation in the data set reports dimensions of a flower and its species.

Questions <u>1-5</u> will be based on this data set. You can access to any column of the iris data set by using \$ sign (e.g., <u>iris\$Species</u> allows you to access to the species column of the iris data set)

The data set has 150 rows (i.e., observations) and

5 columns (i.e., variables).

Note: I am **not** asking *only* the portion of the dataset you see with head (iris). I am asking the entire dataset.

Answer 1:

Correct!

150

Answer 2:

Correct!

5

You can use View(iris) to visually inspect the iris data set. But, you could also create a new data frame (if you wish) by

my_iris <- iris

Then, you can see the dimensions on the Environment pane.

Question 2

1 / 1 pts

Answer the following questions by rounding the value obtained to its first decimal place (enter the value not the R code):

i) The maximum value of Sepal.Length: 7.9

ii) The minimum value of Sepal.Width: 2

iii) The average value of Petal.Length: 3.8

iv) The standard deviation of Petal.Width: 0.8

Note: You can use round(x , 1) to round x to its first decimal place.

Answer 1:

Correct!

7.9

Answer 2:

Correct!

2

orrect Answer

2.0

Answer 3:

Correct!

3.8

Answer 4:

Correct!

8.0

```
> round(max(iris$Sepal.Length),1)
[1] 7.9
> round(min(iris$Sepal.Width),1)
[1] 2
> round(mean(iris$Petal.Length),1)
[1] 3.8
> round(sd(iris$Petal.Width),1)
[1] 0.8
```

Question 3

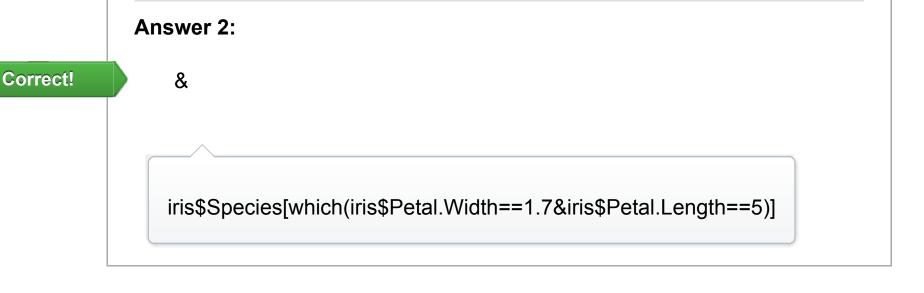
1 / 1 pts

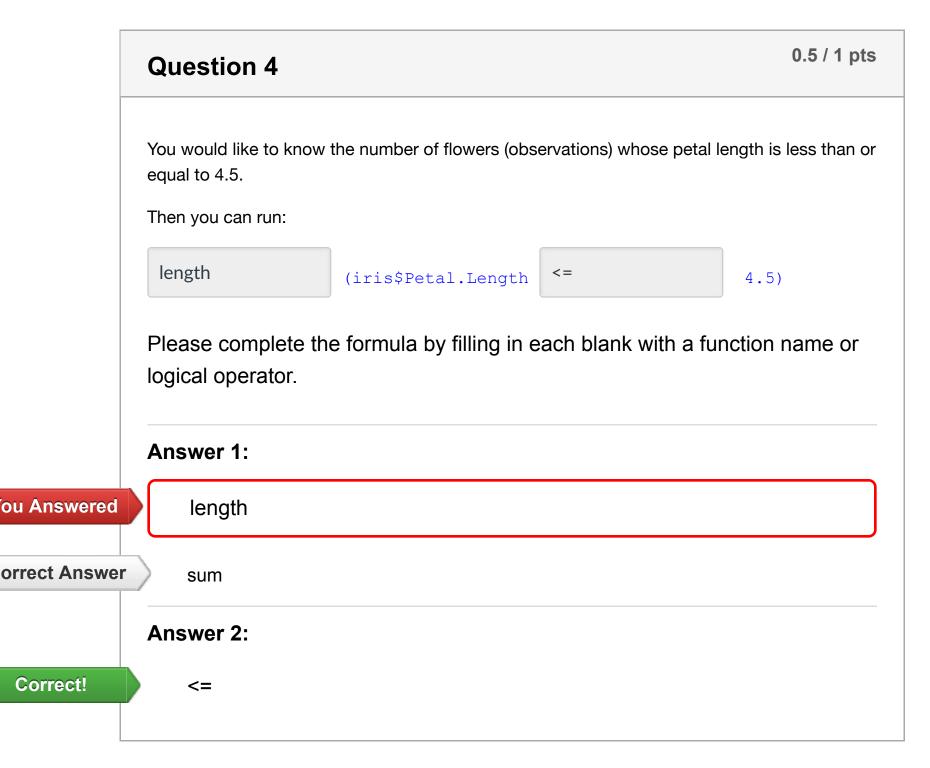
You would like to know what species has a petal width of 1.8 and a petal length of 5.

You then decide to run:

Please fill in each blank with either a function name or a logical operator (i.e., ==, >, <, !, &, |, etc.).

Answer 1:





Question 5 You would like to create a new column that is the ratio of petal length to petal

width.

```
Thus, you run:
               iris$ratio <- iris$Petal.Length</pre>
                iris$Petal.Width
               After the creation of the ratio variable (i.e., column), you would like to know
               the average value of ratio values for the versicolor species (note: versicolor
               is one of the three species of flowers included in this data set).
               Then you would run:
                                        iris$ratio
                                                                which
                mean
                                       versicolor
               (iris$Species ==
                                                           ) ] )
               Please fill in each blank with a function name, logical operator, or a value.
               Answer 1:
               Answer 2:
                   mean
               Answer 3:
                   iris$ratio
               Answer 4:
ou Answered
                   versicolor
orrect Answer
                   "versicolor"
```

Correct!

Correct!

Correct!

1 / 1 pts **Question 6**

You have three vectors already created in your environment -- namely v1, v2, v3 -- that contain **numeric values**.

Suppose v1 is a vector with 4 elements, v2 and v3 have 2 elements. Which of the following code produces <u>a data frame</u> without error? There is at least one correct option. Please select all of the correct ones. PLEASE TRY THESE WITH YOUR OWN VECTORS satisfying the length requirements specified above. \Box df3 <- c(v1,v2) \Box df3 <- c(v2, v3) \Box df3 <- c(v1, v2, v3) df3 <- data_frame(v1, v2, v3)</pre> df3 <- data_frame(v2, v4 = c(TRUE,FALSE)) \checkmark df3 <- data_frame(v1, v5 = c(v2,v3)) df3 <- data_frame(v2, v7 = v2-v3)</pre> 0.5 / 1 pts **Question 7**

Supposed you create a new data frame called df by run the following code:

```
df <- data_frame(name = c("Anna", "Jack", "Bob",
"Howard"), age = c(20, 30, 40, 50))</pre>
```

i) First, since you would like to obtain Bob's age using square brackets, you run:

```
df[ 2 , 3
```

Please fill in each blank above with a value.

Correct!

Correct!

Correct!

ii) Then, you would like to create an additional variable named nationality in the data frame to report each person's nationality. Then,
you run:

```
df$nationality <- c

("Canadian", "American", "British", "Australian")</pre>
```

Please fill in each blank above with a function name or an *appropriate* column (i.e., vector) name.

Answer 1:

ou Answered

3

orrect Answer

2

orrect Answer

2

orrect Answer

2

Answer 2:

Correct!

df\$nationality

Answer 3:

Correct!

С

Question 8

1.67 / 2 pts

Suppose you started a fresh R session.

You run the following code to create a data frame:

```
mydf < -data_frame(x = c(1,2,3,NA,5), y=c(1,4,9,NA,25))
```

View the dataframe before completing the following questions. i) How would you calculate the variance of the x column by only using non-NA values? Please complete the formula: mydf\$x sd na.rm = TRUE) ii) You would like to count the number of NA values in column x. Then you run: sum is.na ((mydf\$x)) iii) Now, please create a new column called z, where the value of z for an observation is the square root of y value of the observation. That is, z is equal to sqrt(y). How many TRUE values will there be when you execute mydf == mydf z in R console? 4 **Answer 1:** ou Answered sd orrect Answer var **Answer 2: Correct!** mydf\$x **Answer 3: Correct!** na.rm **Answer 4: Correct!** sum **Answer 5:**

Correct!	is.na		
	Answer 6:		
Correct!	4		

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