

Answer the following questions:

1. You are given the iris dataset to derive insight from. Using an appropriate library in R, perform the following tasks:

- Select petal length and sepal length from the given dataset
- Filter the data to represent only those classes of flowers whose petal length is more than 5.5 units.
- Create a new column 'flower area' to represent the total area occupied by the flower petals.

2. You use a web api to collect data from the Spotify app database, from this Spotify dataset, perform the following tasks:

- Visualize the distribution of a numerical variable 'song_duration'.
- Add a layer of smooth density curve to the above plot.
- Differentiate the plot based on the categorial variable 'song_genre' using different colors.

3. You are given a csv file named 'heart_disease.csv' comprising of information about various factors affecting the presence of heart disease. Perform the following operations:

- Read the CSV file into a dataframe 'hdf'.
- Display the summary statistics for the column 'cholesterol'.
- Create a new column BMI, while also adding the required variables.

Total Marks: 12

Evaluation Rubrics:

Question no.	Criteria/Description	Marks
1	Selection of library	2 marks
	Choice of function 1	1 mark
	Choice of function 2	1 mark
2	Use of histogram	2 marks
	Density layer	1 mark
	Color coding	1 mark
3	Converting dataset into data frame	2 marks

	Summary Statistics	1 mark
	Adding a new column	1 mark

Attachments

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