1. Introduction

* Data Analytics is the science of analyzing data to convert information to useful knowledge.
* While this is the broad and grand objective, the last 20 years has seen steeply decreasing costs to gather, store, and process data, creating an even stronger motivation for the use of empirical approaches to problem solving.
* Data analytic techniques and is structured around the broad contours of the different types of data analytics, namely, descriptive, inferential, predictive, and prescriptive analytics.
* Data analysis is the process of extracting information from data. It involves multiple stages including establishing a data set, preparing the data for processing, applying models, identifying key findings and creating reports.

1. Objective

* To list and describe the sequence of steps involved in the analysis of an experiment.
* To determine objective for analysis of data from an experiment based on the objectives of the experiment.
* To describe the tentative number, tables and graphs that will be needed to meet the analysis objectives.
* To describe logic behind the training workshop structure and content, in the context of analysis of objectives.
* Preparing the data by making the data files suitable for the planned analysis.
* Identifying the exact comparisons to be made or relationship to be estimated.
* Determining the exact data that are needed to make them.
* Designing the table and graphs that will be used to present the results.

1. Problem Statement

* Please mention true or false for the below statements:

a) Prescriptive Analytics is used to predict the future outcomes

b) Base R packages are installed automatically

**a) False**

**b) False**

1. What is Recycling of elements in a vector?

Recycling occurs when vector arithmetic is performed on multiple vectors of different sizes. R takes the shorter vector and repeats them until it becomes long enough to match the longer one.

**Elements (**Multiplying or dividing vectors is similar to addition and subtraction in that each corresponding element matches up and a product is formed. When the sizes differ, recycling occurs.)

Multiplication

Division

1. Give an example of recycling of elements.

> c(1,2,3,4,5,6) + c(1,3)

[1] 2 4 3 7 6 9

Multiplication and Division

> c(1,2,3) \* c(0,3,6)

[1] 0 6 18

> c(1,3,5) \* c(2,4)

[1] 2 12 10

Warning message:

In c(1, 3, 5) \* c(2, 4) :

longer object length is not a multiple of shorter object length

6. Expected Format

1. R file should be submitted where applicable.

Ans (.r)

2. R file should be in PDF or in .r format

Ans Should be in .r format

3. Proper screenshots of the outputs should be submitted as well

4. The r codes, if submitted in any other format, will be subjected to deduction in marks

Note: Your solution will not be entertained if it is any other format, e.g., .zip, .doc, .rtf etc.



