WEEK 3 REPORT – ANATOMY OF A STATISTICAL POPULATION

Group Number: 25  
Date and Time of Tutorial Session: September 18, 4:00-5:30  
Group Members (First and Last name – no student numbers):

1. Katarzyna Fraser
2. Hanna Asin
3. Annika Tran
4. Ella Pustil

Graded out of 10 marks.

Q1 a) Record the type of each variable.   
(1 mark)

|  |  |
| --- | --- |
| **Variable name** | **Type (categorical or numerical)** |
| Weight | Numerical |
| Time | numerical |
| Chick | categorical |
| Diet | categorical |

Q1 b) Identify and record the group from the ‘Chickens ‘R’ Us’ case study for each statistical group  
(2 marks, 0.4 marks each)

|  |  |
| --- | --- |
| **Statistical groups** | **Groups from the ‘Chickens ‘R’ Us’  case study** |
| Statistical Population | All chicks raised by “Chickens R Us” |
| Sample | The group of randomly selected chicks |
| Sample Unit | An individual chick |
| Observation Unit | An individual chick |
| ­­­­­­Measurement Unit | Weight of the chicks (grams) |

Q2 Paste the output of your str() function here after you have re-loaded your data and classified the data types in each column using the colClasses() function within the read.csv() function.   
(1 mark)

'data. Frame': 2200 obs. of 4 variables:

$ Chick : Factor w/ 50 levels "1","10","11",..: 1 12 23 34 45 47 48 49 50 2 ...

$ Diet : Factor w/ 4 levels "1","2","3","4": 1 1 1 1 1 1 1 1 1 1 ...

$ Time : num 0 0 0 0 0 0 0 0 0 0 ...

$ Weight: num 35.1 39.5 33.8 40.3 37.7 ...

>

Q3 a) Record the mean weight (two decimal places) of chicks from each diet treatment  
(2 marks)

|  |  |
| --- | --- |
| Diet | Mean Weight |
| 1 | 109.96 |
| 2 | 121.41 |
| 3 | 119.01 |
| 4 | 124.24 |

Q3 b) Display the scatterplot for diet 2. (From the RStudio ‘Plot’ menu you can either copy-paste the image or save the image and then insert.)  
(1 mark)

A graph of a number of dots

Description automatically generated with medium confidence

Q4 a) Record the change in mean weight among diet as a percent (two decimal places).  
(1 mark)

|  |  |
| --- | --- |
| Diet | Percent Change in Weight |
| 1 to 2 | 10.41 |
| 2 to 3 | -1.98 |
| 3 to 4 | 4.39 |

Q4 b) Explain which diet you would recommend to the farmer, and the reasoning.  
(2 marks)

The farmer should do diet number 2 because there was a bigger difference between this diet 1 and 2. There was a 10% difference.

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