BSc (Software Design) Game Dev./Cloud Comp.
Maths 1 (Statistics Assignment)
Report Layout

The data contained in the Excel spreadsheet titled **Statistical Data Assignment 1** on the e-learning server contains the masses in kg of 2000 adults.

Task

For the data contained in this file, do the following:

(a)   Construct two frequency distribution table with between 16 and 20 classes of equal width following the normal rules for establishing such distributions.

(b)   Draw a frequency histogram for each of the resultant grouped data sets.

(c)   Set up the tables necessary using the coding method necessary for the mean and standard deviation.

(d)   Calculate the mean and standard deviation of each frequency distribution.

(e)   Calculate the semi-inter quartile range.

(f)   Calculate the 10-90 Percentile range.

(g)   What % of the data falls within ± 1 standard deviation of the mean.

(h)   Comment on this figure and how it relates to a normal distribution

Report

The report to be submitted must

- be typed and printed on A4 and bound appropriately in a plastic cover.

- have, where necessary, presentation quality histograms, data tables, etc. Excel may be used where necessary to both check calculations and create these histograms, tables, etc.

- have appropriate diagrams constructed using appropriate applications (such as MS Word, Openoffice Draw, etc.) Refer to the worked examples on the SIQR and 10-90 Percentile Range in the notes for examples of what is required.

- have a title page including Class/Year/etc., Title of Assignment, Group names, and Submission date.

Layout

The report to be submitted by each group should, at the very least, contain the following sections:

1   Introduction:
      Here you describe the experiment itself, what its aims are, and how these were achieved. You should state what questions your analysis of the raw and coded data is intending to answer.

2   Coding Method:
      In this section you describe the coding method for frequency distributions. This should

include the advantages and disadvantages of the method over calculations using the raw data. Explain clearly the significance of the various columns in the coding table.

3   Frequency Analysis:
This is the section where you describe how the frequency distributions used by you in the subsequent sections were created. State clearly your choice of anchor points (for the frequency classes) of the data set. You should describe in detail the safeguards put in place for the two frequency distributions to be valid for the data being analysed.

4   Coding Tables:
This contains the coding tables for both frequency distributions. Include all histograms in this section. Comment on
- the structure of the data in these distributions evident from the histograms.
- the similarites and differences between the two sets apparent from these histograms.
- where you would expect the mean of each data set to fall from these histograms
- how spread out the data is and give a rough estimate for the standard deviation, s, from the histograms.

5   Data Analysis:
The analysis is the heart of the report and MUST include the determination of
- the mean, $\bar{X}$, and standard deviation, s
- the Semi-InterQuartile Range (SIQR)
- the 10-90 Percentile Range
- the percentage of data falling within one standard deviation of the mean.

Compare the mean and standard deviation measured from the coding tables against those calculated from the raw data sets and comment on the appropriateness of the frequency distributions to describe the raw data sets. Expand the analysis as you deem appropriate.

6   Conclusions
In this section you must bring together all the answers from your anlaysis and present them along with any conclusions inferred from the analysis. The conclusions should also suggest improvements, modifications, and future directions the analysis could take. The *"tying up of loose ends"* typical of a conclusions section is a useful measure of how the authors understand the task being undertaken.

Appendices
      Appendices to include (but not necessarily be restricted to)

A1   Raw Data

A2   Class Mark/Class Mean calculations

Rubric

Grade	Mark	Explanation
A	100.00%	Exceptional work of the highest standard. The group has demonstrated independent learning of a very high level by including in their analysis/report concepts and metrics not covered in their formal classes.
A-	90.00%	Outstanding work. The group has applied the concepts and metrics that were introduced in the classes flawlessly with exceptional clarity.
B	80.00%	Excellent work. The group has shown a complete understanding of all the concepts and methods required for the successful completion of the report.
B-	70.00%	Very good work. The group has demonstrated they understand the methods introduced in the formal classes and how to apply them comprehensively to the problem at hand.
C	60.00%	Good work. The group has shown that they have an understanding of the problem to be solved and the inherent tasks to be undetaken.
C-	50.00%	Competent work. The group is acquainted with the task at hand and show a level of understanding necessary to attempt a solution of the problem successfully.
D	40.00%	Adequate work. The group show a modicum of knowledge pertinent to the area of study related to the stated problem. The solution requires extra work to complete the task required.
E	<40%	The work submitted does not address the task adequately. Significant additional work is required by the group to complete the task at hand and answer the fundamental questions posed.