DEPARTMENT OF MATHEMATICS - UDSM
MT114: Computer Programming – 2021/2022
Assignment (10 Points)

TASK: Prepare a module **stats** to contain the following statistics functions.

1. **fdtablegd()** which returns a frequency distribution table for grouped data as a list of lists of class intervals, class boundaries, class marks, frequencies and cumulative frequencies, etc. The input of the function shall be raw data *data*, class size *csize* and *printtable* whose default value is False, if the value is True then the frequency distribution table will be printed onto file freqdtable.txt. The first class interval shall start with the lowest data point.

2. **meangd()** which returns the weighted mean of given grouped data set. Use appropriate inputs from the outputs of fdtablegd().

3. **meadiagd()** which returns the median of given grouped data set. Use appropriate inputs from the outputs of fdtablegd().

4. **modegd()** which returns the mode of given grouped data set. Use appropriate inputs from the outputs of fdtablegd().

5. **stdvargd()** which returns the standard deviation or variance of given grouped data sets. Use appropriate inputs from the outputs of fdtablegd().

TESTING: Test all functions from the module stats by writing Python program using the appropriate data sets corresponding to your group. For example for group 10, the corresponding data set will be saved as data_g10.txt and that of group 15 data set will be saved as data_g15.txt (Data sets are to be downloaded separately).

Print the results of your program as follows:

Mean	23.56
Median	22.87
Mode	21.34
Variance	1.23

GRADING: The module shall contain all important standard features of Python programming. For example; function definitions, code reuse, docstrings, comments, smart indentation, code readability, identifiers naming etc.

SUBMISSION

1. Submit your source code (in a group of 4 by **Wednesday 9th, February 2022 23:55 Hours**, with the filename structure **stat_OneRegistrationNumber.py**

2. Put Group Number, names and registration numbers for all participants as comments at the top of your python files.

3. You will submit the assignment as attachment in LMS; therefore the deadline will be **automatically** and **strictly** controlled.

Course Instructor
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