UCS654 - Predictive Analytics Using Statistics

Assignment01 - Marks Analysis

General Instructions – Must Read

- **Submission Due Date:** 30 Jan 2022 | 23:59:59
- **Marks:** 05 (Five)
- **Number of Questions:** 02
- **Submission Link:** Click Here
- **Submission Guidelines:** You need to submit TWO python files only.
  - One python (.py) file for 1 | File Name must be <YourRollNum-1>.py | Example: **10155-1.py**
  - One python (.py) file for 2 | File Name must be <YourRollNum-2>.py | Example: **10155-2.py**
- Your program must be run from **command line** only:
  - **Usages:** python <program.py> <InputDataFile>
  - **Example:** python 10155-1.py input.csv
  - **Example:** python 10155-2.py output.csv
- Your program must be capable to handle exception (if any) and write to **log file**:
  - Correct number of parameters (inputFileName).
  - Show the appropriate message for wrong inputs.
  - Handling of "File not Found" exception
  - Input file must contain three columns only.
  - If any issue with the input record it must be write to a log file
- **Note:**
  - Multiple submissions are allowed, but **latest submission** will be considered for the evaluation.
  - Submission link will open all the time, but only 50% marks will be awarded if you fail to submit with in the due date. No excuse will be consider for the submission.
  - **Zero marks** will be awarded for plagiarized code or result.

1. **Write a python program that converts the input file to output file.** [Input file is available in "Input for Assignment01" folder]

input file

RollNumber	Submission	Marks
101803002	P1	13
101803002	P2	14
101803002	P3	14
101803003	P1	13
101803003	P2	15
101803003	P3	13
101803004	P1	13
101803004	P2	13
101803004	P3	15
101803005	P1	14
101803005	P2	14
101803005	P3	15
101803006	P1	15

output file

RollNumber	P1	P2	P3	P4	P5
101803002	13	14	14	0	0
101803003	13	15	13	0	0
101803004	13	13	15	0	0
101803005	14	14	15	0	0
101803006	15	14	0	15	0
101803008	13	14	13	0	0
101803010	14	13	15	0	0
101803011	13	14	13	0	0
101803013	15	15	14	0	0
101803017	13	15	13	0	0

2. **WAP a python program that reads the output file (of 1.1) and generates**
   - Multiple plots such as Histogram, Line chart, Pie chart, etc for count/total for P1, P2, P3, P4, P5, Total-of-all}. All the plots must be saved into multiple .png files (filenames must be <RollNo>-<Plot-type>.png | Example 101903001-histrogram-count.png, 101903001-histrogram-total.png 101903001-line-count.png, 101903001-line-total.png, etc).
   - Generate the different statistics and save to a txt file: such as {Min, Max, Mean, Median, SD, distribution, Count number of missing values, Count Non numeric Values, etc for P1, P2, P3, P4, P5, Total-of-all.

Please note: I/O for each program

Program Name	Input File	Output File
10155-1.py	input.csv	1019033001-output.csv
10155-2.py	output.csv	1019033001-histogram.png 1019033001-line.png 1019033001-pie.png 1019033001-graph1.png 1019033001-graph2.png 1019033001-graph3.png 1019033001-statistics.txt **1019033001-log.txt**