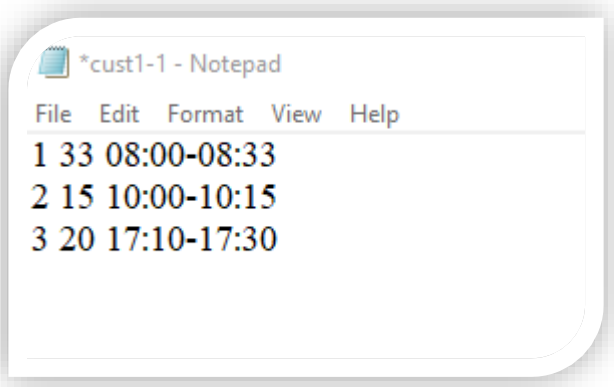
Homework 1 [10 Points]:

Instructions: This homework is an individual-base. Each of you is expected to submit programs that solve each of the following problems. Due date of submissions is on Friday, 1/10/2021.

1) [6 points] A Mobile-Camera Intrusion Detection tool reads daily users camera usage. Then by the end of the week it generates reports of the average time of usage in each day (Normal), and warn the users of usage period above the average (Abnormal). The usage will be evaluated on each customer phone. The usage information is sent to the cloud and kept as files with names "custID-day.txt". The files include in each line (seq#, duration in minutes, starting time-ending time)



QA) [2points] Write a function that accepts a customerID (1,2, or 3), then calculate the average usage in each day.

QB) [2 points] Your function written in QA should notify the customers with any expected intrusions to their cameras by displaying the day with usage above average. Hint: use custom exceptions

QC) [2 points] For the previous problem, it takes time to generate reports when having large number of customers. For that reason, you should re-write your code in order to have a separate thread to generate each customer report.

2) [4 points] A forensic team finds a disk with multiple files stored. One of these files of interest is archive ".zip" file that is protected with a password. They need to find all (.txt) files, and among them they expect to find a file that contains a list of passwords that might be useful in cracking the .zip.

QA) [1 points] Write python script that scans the "D:/" for ".txt" files and generate a list that contains these files names

QB) [1 points] Your script should also look for the file that contains a list of passwords, this file is expected to contain multiple lines with the pattern "password_seq:numbers", e.x.
password_1:2232145
password_2:2356778

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QC) [2 points] Try to extract the .zip file using one of these passwords.