**Individual assignment #2**

**Module 1**

**Cyber 262**

Please write a Python program to analyze both of the two given log files and print to console the following outputs:

* Output A: output a table which consists of the following rows and columns:
  + The first row has two fields. (a) The total number of “read from a file” events recorded in the first log file; (b) The total number of “read from a file” events recorded in the second log file.
  + The second row has two fields. (a) The total number of “read from keyboard” events recorded in the first log file; (b) The total number of “read from keyboard” events recorded in the second log file.
  + The third row has two fields. (a) The total number of “read from pipe” events recorded in the first log file; (b) The total number of “read from pipe” events recorded in the second log file.
* Output B: output a table which consists of the following rows and columns:
  + The first row has two fields. (a) The total number of “a program starts running” events recorded in the first log file; (b) The total number of “a program starts running” events recorded in the second log file.
  + The second row has two fields. (a) The total number of write events recorded in the first log file; (b) The total number of write events recorded in the second log file.
  + The third row has two fields. (a) The total number of “get file/directory status” events recorded in the first log file; (b) The total number of “get file/directory status” events recorded in the second log file.
  + The fourth row has two fields. (a) The total number of “file unlinking” events recorded in the first log file; (b) The total number of “file unlinking” events recorded in the second log file.
  + The fifth row has two fields. (a) The total number of “a program ends executing” events recorded in the first log file; (b) The total number of “a program ends executing” events recorded in the second log file.
* Output C: output a table which consists of the following rows and columns:
* The first row has three fields. (a) The name of one executable program. (b) If the executable program appears in the first log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”. (c) If the executable program appears in the second log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”.
* The second row has three fields. (a) The name of another executable program. (b) If the executable program appears in the first log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”. (c) If the executable program appears in the second log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”.
* The third row has three fields. (a) The name of a third executable program, if it exists. (b) If the executable program appears in the first log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”. (c) If the executable program appears in the second log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”.
* The fourth row has three fields. (a) The name of a fourth executable program, if it exists. (b) If the executable program appears in the first log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”. (c) If the executable program appears in the second log, print the timestamp of the corresponding “a program starts running” event; otherwise, print “absent”.
* Output D: From the first log file, retrieve and output the sequence of user-console interaction events.
  + The events in the sequence are ordered by the “happened before” relation.
  + When an event let the user provide keystrokes to the console, output the following items: (a) print “the user provides the following keystrokes to the console:”; (b) print the keystrokes recorded in the log.
  + When an event let the console show a message to the user’s eyes, output the following items: (a) print “the console shows the following message to the user’s eyes:”; (b) print the message recorded in the log, if any.
* Output E: From the second log file, retrieve and output the sequence of user-console interaction events.
  + The events in the sequence are ordered by the “happened before” relation.
  + When an event let the user provide keystrokes to the console, output the following items: (a) print “the user provides the following keystrokes to the console:”; (b) print the keystrokes recorded in the log.
  + When an event let the console show a message to the user’s eyes, output the following items: (a) print “the console shows the following message to the user’s eyes:”; (b) print the message recorded in the log, if any.

**What to submit**:

* Your Python program(s)
* The outputs you get (in a txt file)

Please put all these items in a folder and compress the folder into a single ZIP archive file. Include your first and last names in the file name of the ZIP archive.