1. **Introduction:**

   To fetch the delay statistics for the packets transmitted from local server to central server and back using UDP protocol.

2. **Scope:** Applicable for the Twinkle Door Access System

3. **The folder where the program resides and how to execute them from the start:**

In Central Server (Raspberry Pi, IP addr:10.32.26.70)

Location: /home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB /
Name of the file: UDP_Delay_Stats_Data_Store_DB_v2.py

How to execute the program in Central Server:

- Open the terminal.
- Change the directory by typing:
  "cd /home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB/"
- To run the program type:
  "python3 UDP_Delay_Stats_Data_Store_DB_v2.py"

In Local Server (Raspberry Pi, IP addr: 10.32.26.20):

Location:
/home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB/Multiuser
Name of the file: UDP_Delay_Stats_Data_Store_DB_v3.py
Dependent file: UDP_Delay_Stats_Data_Connct_Cent_Serv.py

How to execute the program in Local Server:

- Open the terminal.
- Change the directory by typing:

"cd /home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB/Multiuser"

- To run the local server program type:
  "python3 UDP_Delay_Stats_Data_Store_DB_v3.py"
- To run the program for synthetic testing:
  "python3 UDP_client_test.py"

Note: This file is solely for testing purpose. It generates the Twinklet packets and sends it to Local Server

4. **Guide to fetch the delay statistics file in Central Server:** The program is a self-written script.

In Central Server (Raspberry Pi, IP addr:10.32.26.70)

Location:/home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB/Delay_Statistics

How to execute the program in Central Server:

- Open the terminal.
- Change the directory by typing:

"cd
/home/pi/Desktop/Delay_Statistics/UDP/UDP_Delay_Stats_Integrate_DB/Delay_Statistics"

- To run the script file:
  "./get_db.sh"

  Note: This is a script to fetch the database file storing the delay statistics in Local Server

- On fetching the database file, execute:

  "python3 Excel_sheet.py"

  This file will log the delay parameters and statistics in an Excel sheet.

5. **Details about any scripts or 3rd party programs:**
   No third-party program is implemented here

6. **Platforms required for running the programs (PC/RPi ...):**
   Raspberry Pi, Windows with Visual Studio, PyCharm, Linux Systems.