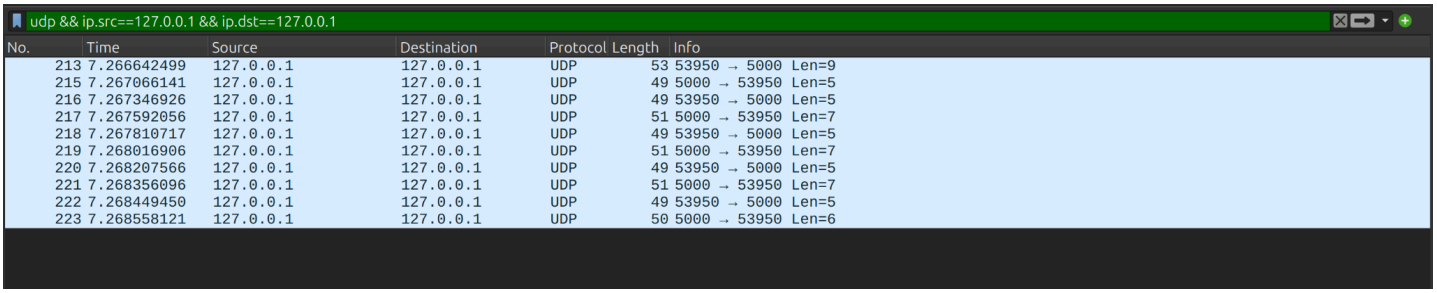
NETWORKS LAB

ASSIGNMENT 2: UDP SOCKETS

PART-2: WIRESHARK ANALYSIS

Q1. Screenshot for all the packets exchanged between the client and server during the execution.



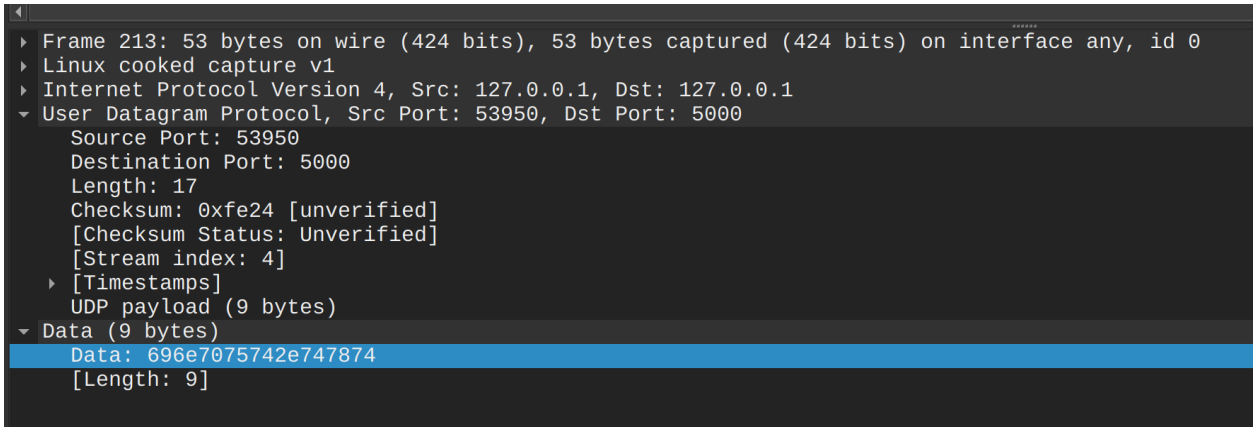
udp && ip.src==127.0.0.1 && ip.dst==127.0.0.1

No.	Time	Source	Destination	Protocol	Length	Info
213	7.266642499	127.0.0.1	127.0.0.1	UDP	53	53950 → 5000 Len=9
215	7.267066141	127.0.0.1	127.0.0.1	UDP	49	5000 → 53950 Len=5
216	7.267346926	127.0.0.1	127.0.0.1	UDP	49	53950 → 5000 Len=5
217	7.267592056	127.0.0.1	127.0.0.1	UDP	51	5000 → 53950 Len=7
218	7.267810717	127.0.0.1	127.0.0.1	UDP	49	53950 → 5000 Len=5
219	7.268016906	127.0.0.1	127.0.0.1	UDP	51	5000 → 53950 Len=7
220	7.268207566	127.0.0.1	127.0.0.1	UDP	49	53950 → 5000 Len=5
221	7.268356096	127.0.0.1	127.0.0.1	UDP	51	5000 → 53950 Len=7
222	7.268449450	127.0.0.1	127.0.0.1	UDP	49	53950 → 5000 Len=5
223	7.268558121	127.0.0.1	127.0.0.1	UDP	50	5000 → 53950 Len=6

Q2. The protocol used for the communication is UDP (User Datagram Protocol)

Q3. Source IP Address : 127.0.0.1
Destination IP Address : 127.0.0.1
Source Port : 53950
Destination Port : 5000

Q4. The size of the FILENAME request sent by the client is 53 bytes (424 bits)



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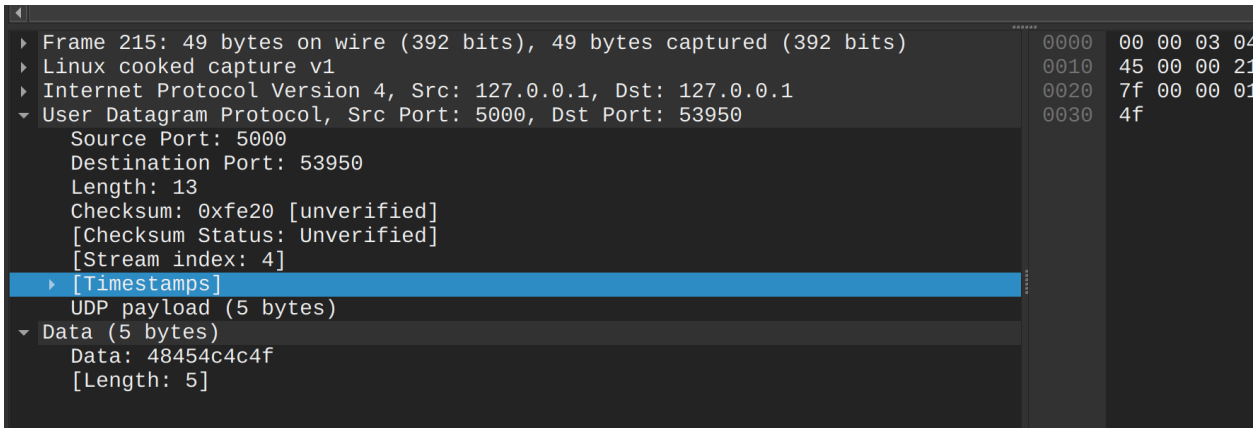
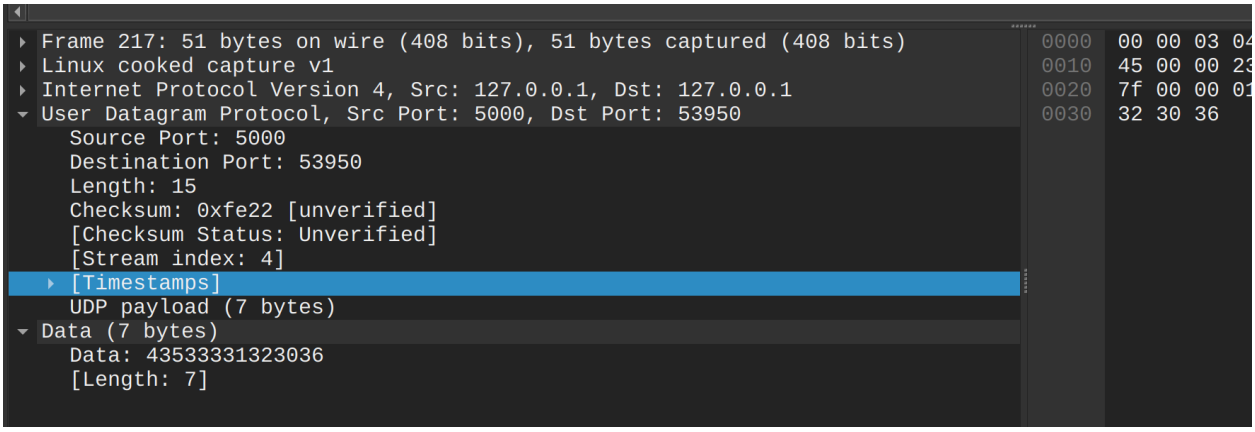
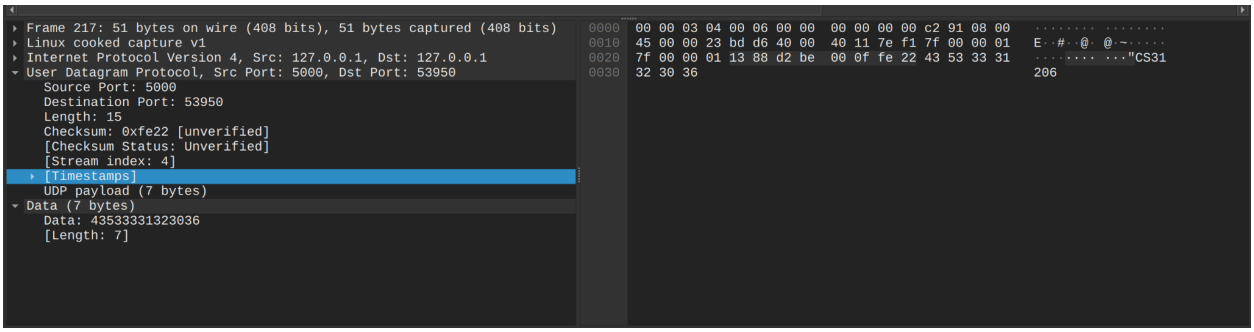
▸ Frame 213: 53 bytes on wire (424 bits), 53 bytes captured (424 bits) on interface any, id 0
▸ Linux cooked capture v1
▸ Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
▾ User Datagram Protocol, Src Port: 53950, Dst Port: 5000
    Source Port: 53950
    Destination Port: 5000
    Length: 17
    Checksum: 0xfe24 [unverified]
    [Checksum Status: Unverified]
    [Stream index: 4]
  ▸ [Timestamps]
    UDP payload (9 bytes)
▾ Data (9 bytes)
    Data: 696e7075742e747874
    [Length: 9]
```

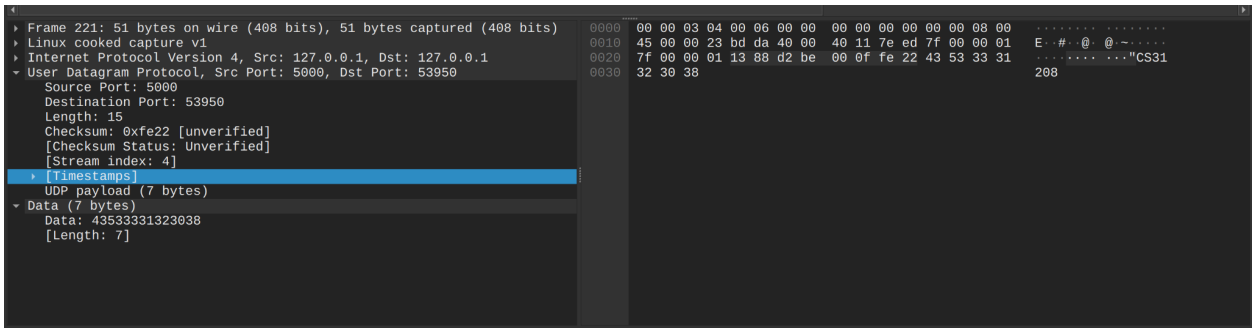
Q5. The size of the server's response for HELLO was 49 bytes, and that for the first word i.e. WORD1 is 51 bytes.

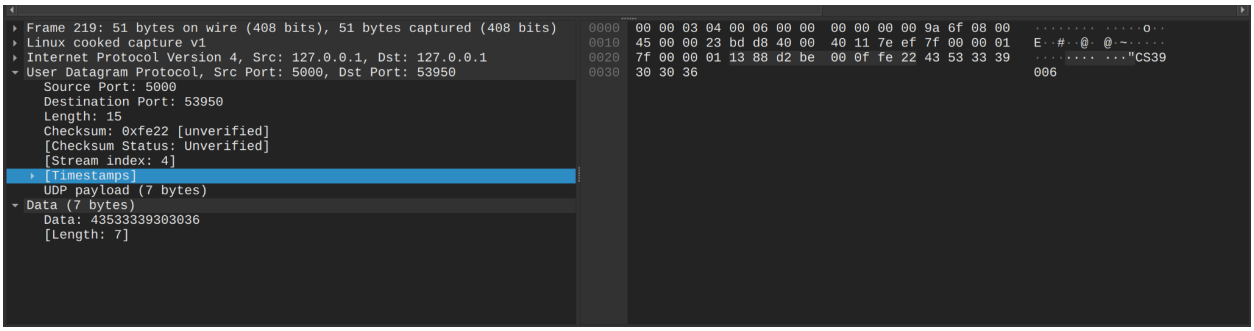




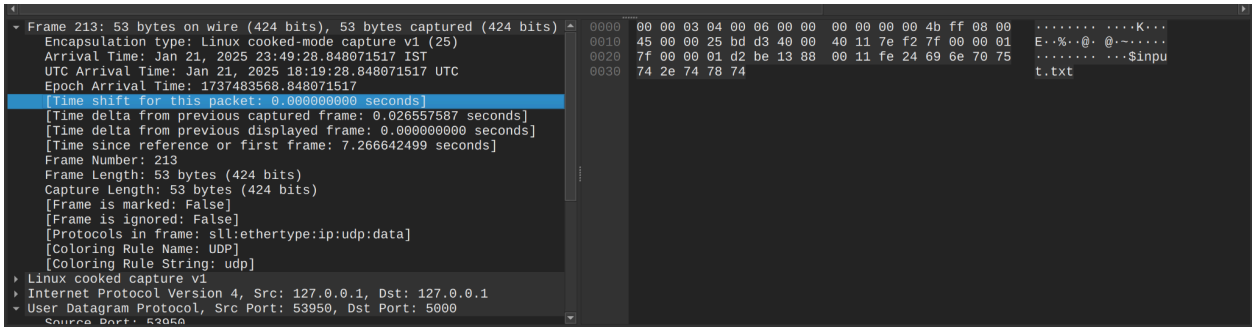
Q6. Following are the payload of packets where words are transmitted.







Q7. The total time taken for the file transfer from start to finish is : 0.001916s



By analyzing the arrival times of the first and last packet.

Q8. The average size of each packet during the communication is : 50.1 bytes (calculated by analyzing sizes of each packet from Wireshark) (We can also check this data within the packet analysis part of the Wireshark).