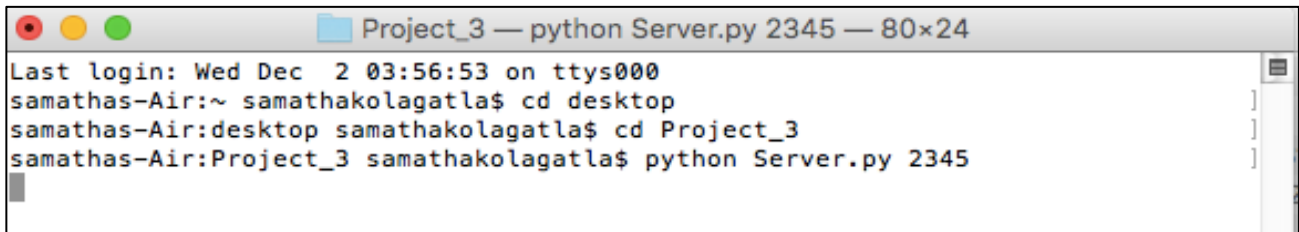


### Programming Assignment #3

In this file, I have shown screenshots of results of executed streaming video server and client programs.

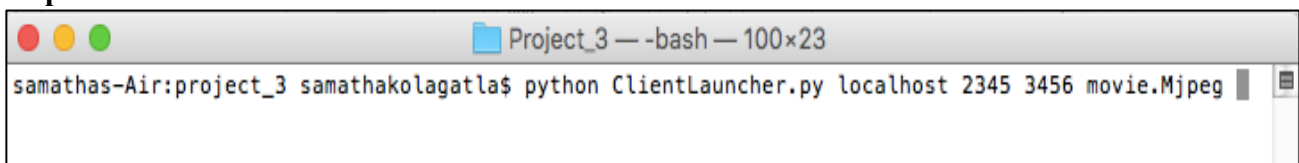
#### Step 1:

From Terminal, executing Server.py code along with port number server listens to incoming RTSP connections starts server. It is shown in screenshot below.



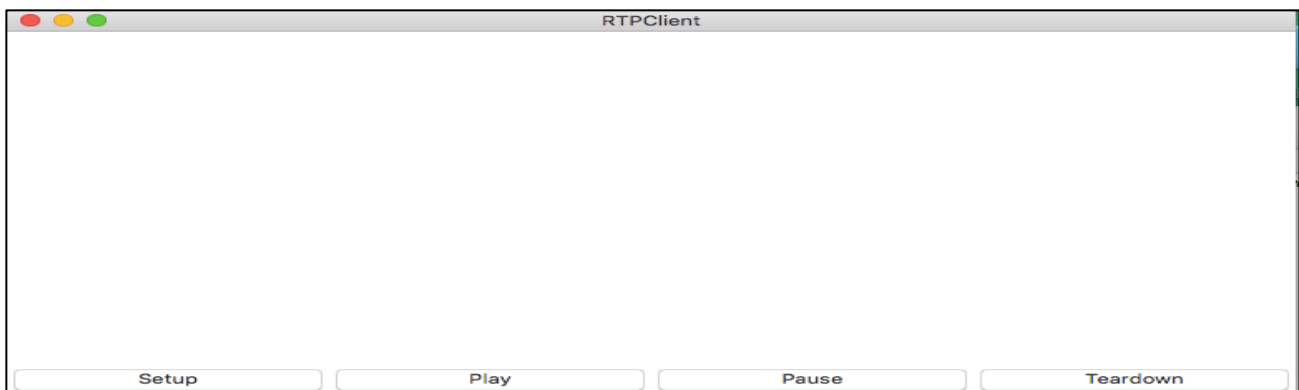
```
Project_3 — python Server.py 2345 — 80×24
Last login: Wed Dec 2 03:56:53 on ttys000
samathas-Air:~ samathakolagatla$ cd desktop
samathas-Air:desktop samathakolagatla$ cd Project_3
samathas-Air:Project_3 samathakolagatla$ python Server.py 2345
```

#### Step 2: Client is started from a new terminal window as shown below



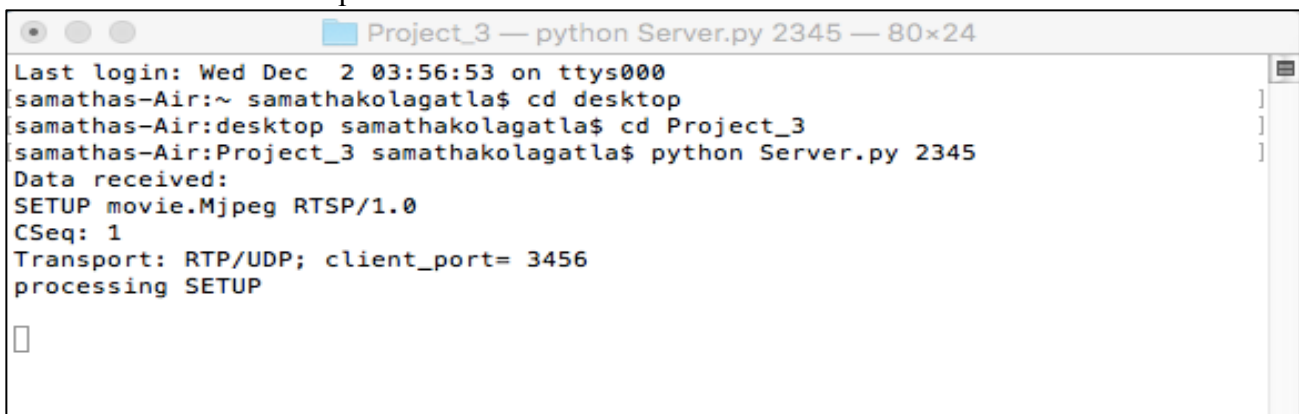
```
Project_3 — -bash — 100×23
samathas-Air:project_3 samathakolagatla$ python ClientLauncher.py localhost 2345 3456 movie.Mjpeg
```

#### Step 3: Then the client opens a connection to the server, and then a window (RTPClient) pops up as shown below.



#### Step 4(a):

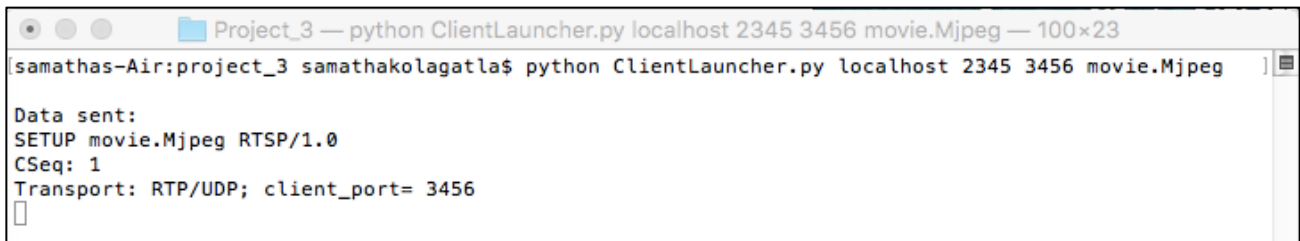
When Setup button is clicked in RTPClient window for sending SETUP request to the server; Server Terminal shows server response as shown below.



```
Project_3 — python Server.py 2345 — 80×24
Last login: Wed Dec 2 03:56:53 on ttys000
samathas-Air:~ samathakolagatla$ cd desktop
samathas-Air:desktop samathakolagatla$ cd Project_3
samathas-Air:Project_3 samathakolagatla$ python Server.py 2345
Data received:
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
processing SETUP
```

**Step 4(b):**

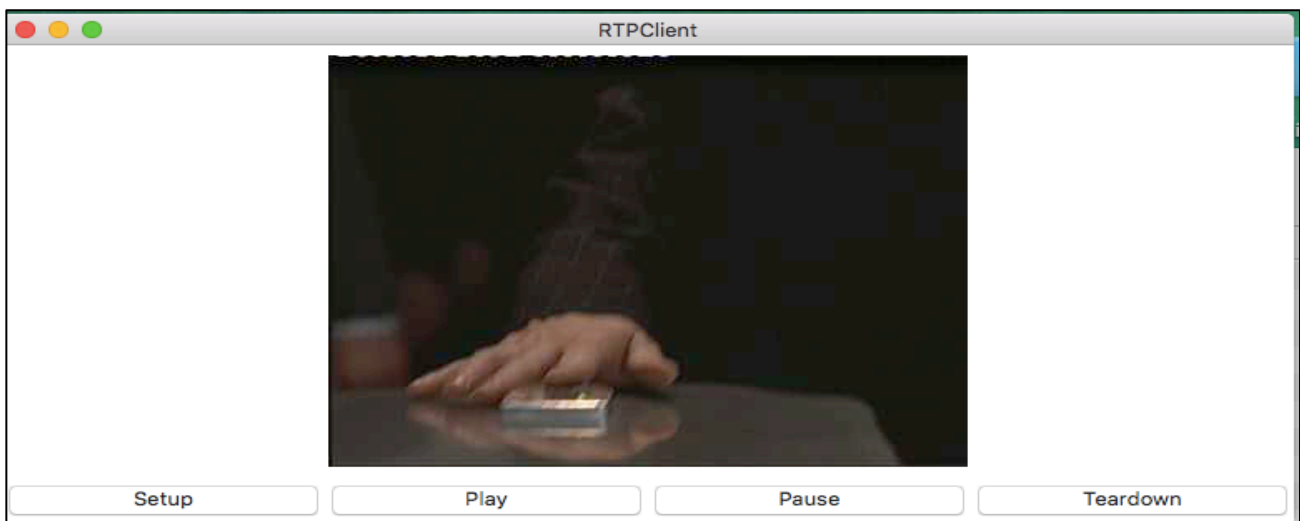
When 'Setup' button is clicked in RTPClient window, request in Client Terminal window is shown below.



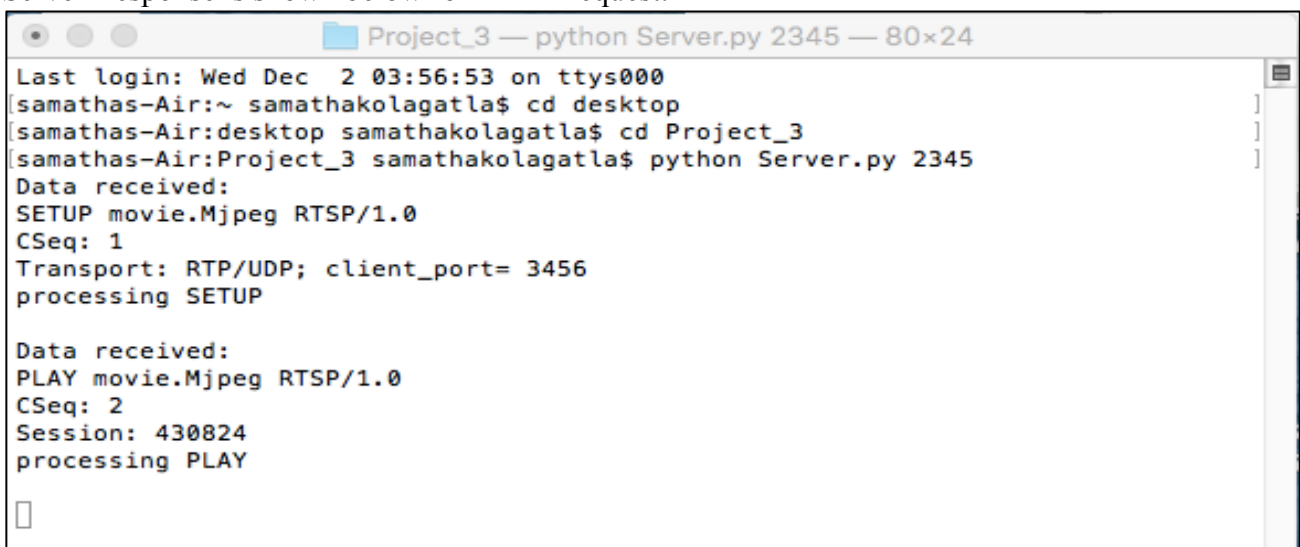
```
Project_3 — python ClientLauncher.py localhost 2345 3456 movie.Mjpeg — 100x23
[samathas-Air:project_3 samathakolagatla$ python ClientLauncher.py localhost 2345 3456 movie.Mjpeg ]
Data sent:
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
```

**Step 5(a):**

Then PLAY request is sent to server by clicking 'Play' button in RTPClient. Video starts playing after that.

**Step 5(b):**

Server Response is shown below for PLAY request.



```
Project_3 — python Server.py 2345 — 80x24
Last login: Wed Dec  2 03:56:53 on ttys000
[samathas-Air:~ samathakolagatla$ cd desktop
[samathas-Air:desktop samathakolagatla$ cd Project_3
[samathas-Air:Project_3 samathakolagatla$ python Server.py 2345
Data received:
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
processing SETUP

Data received:
PLAY movie.Mjpeg RTSP/1.0
CSeq: 2
Session: 430824
processing PLAY
```

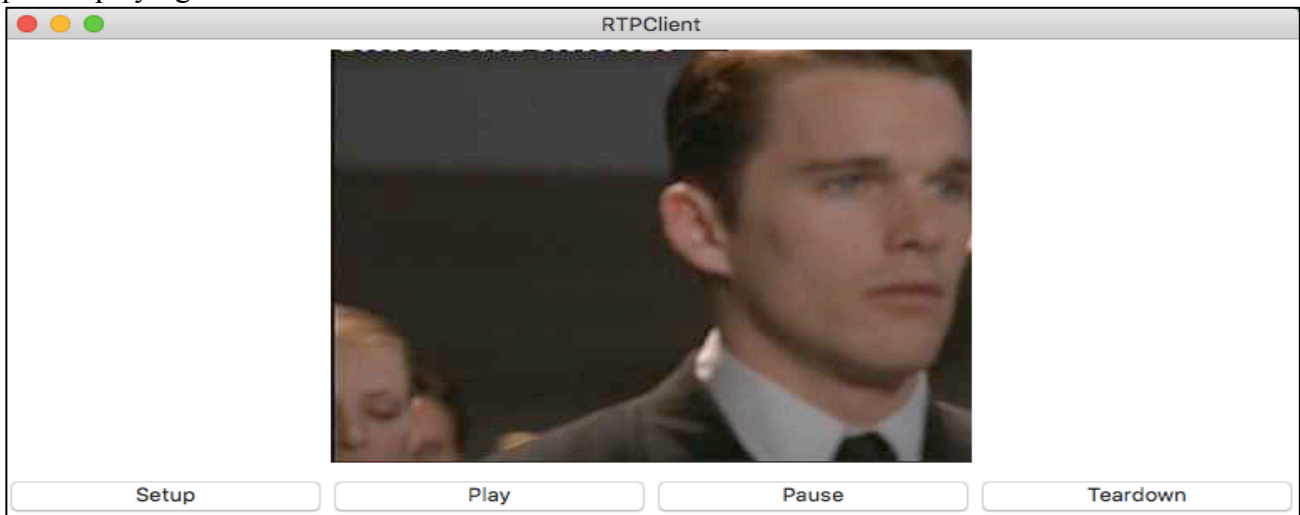
**Step 5(c):** Request in Client Terminal window is shown below.

```
Project_3 — python ClientLauncher.py localhost 2345 3456 movie.Mjpeg — 100x23

Data sent:
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
listening

Data sent:
PLAY movie.Mjpeg RTSP/1.0
CSeq: 2
Session: 430824
Current Seq Num: 1
listening
Current Seq Num: 2
listening
Current Seq Num: 3
listening
Current Seq Num: 4
listening
Current Seq Num: 5
listening
Current Seq Num: 6
□
```

**Step 6(a):** Then PAUSE request is sent to server by clicking 'Pause' button in RTPClient. Video pauses playing after that.



**Step 6(b):** Server Response is shown below for PAUSE request.

```
Project_3 — python Server.py 2345 — 80x24

Last login: Wed Dec 2 03:56:53 on ttys000
[samathas-Air:~ samathakolagatla$ cd desktop
[samathas-Air:desktop samathakolagatla$ cd Project_3
[samathas-Air:Project_3 samathakolagatla$ python Server.py 2345

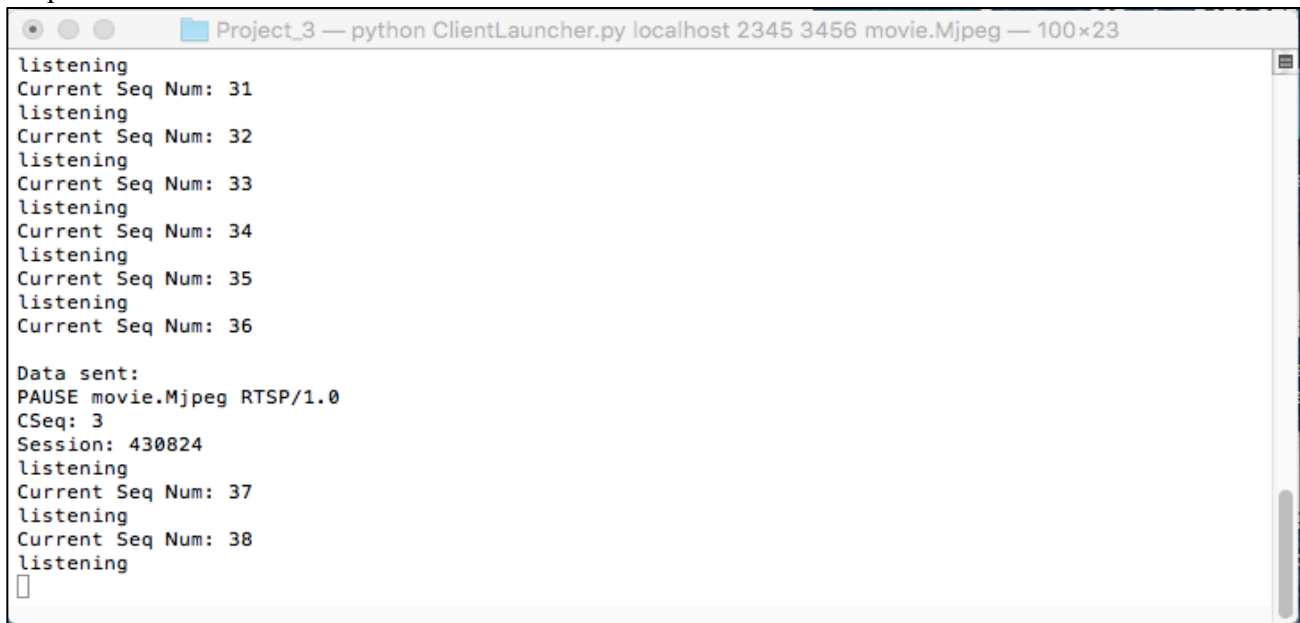
Data received:
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
processing SETUP

Data received:
PLAY movie.Mjpeg RTSP/1.0
CSeq: 2
Session: 430824
processing PLAY

Data received:
PAUSE movie.Mjpeg RTSP/1.0
CSeq: 3
Session: 430824
processing PAUSE
□
```

**Step 6(c):**

Request in Client Terminal window is shown below.



```
Project_3 — python ClientLauncher.py localhost 2345 3456 movie.Mjpeg — 100x23
listening
Current Seq Num: 31
listening
Current Seq Num: 32
listening
Current Seq Num: 33
listening
Current Seq Num: 34
listening
Current Seq Num: 35
listening
Current Seq Num: 36

Data sent:
PAUSE movie.Mjpeg RTSP/1.0
CSeq: 3
Session: 430824
listening
Current Seq Num: 37
listening
Current Seq Num: 38
listening
```

**Step 7(a):**

- Then TEARDOWN request is sent to server by clicking 'Teardown' button in RTPClient. Video Stops playing after that and RTPClient window disappears.
- Server Response is shown below for TEARDOWN request.



```
Project_3 — python Server.py 2345 — 80x24
SETUP movie.Mjpeg RTSP/1.0
CSeq: 1
Transport: RTP/UDP; client_port= 3456
processing SETUP

Data received:
PLAY movie.Mjpeg RTSP/1.0
CSeq: 2
Session: 430824
processing PLAY

Data received:
PAUSE movie.Mjpeg RTSP/1.0
CSeq: 3
Session: 430824
processing PAUSE

Data received:
TEARDOWN movie.Mjpeg RTSP/1.0
CSeq: 4
Session: 430824
processing TEARDOWN
```

**Step 7(b):** Request in Client Terminal window is shown below.



```
Project_3 — -bash — 100x23
Current Seq Num: 33
listening
Current Seq Num: 34
listening
Current Seq Num: 35
listening
Current Seq Num: 36

Data sent:
PAUSE movie.Mjpeg RTSP/1.0
CSeq: 3
Session: 430824
listening
Current Seq Num: 37
listening
Current Seq Num: 38
listening

Data sent:
TEARDOWN movie.Mjpeg RTSP/1.0
CSeq: 4
Session: 430824
samathas-Air:project_3 samathakolagatla$
```