- DNS
  - server.py U

DNS > server.py > ...

```python
import socket


server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 12345
server.bind((Host, Port))
DNSTable = {
      "www.google.com" :"142.251.35.164" ,
      "www.facebook.com" :"157.240.214.35" ,
      "www.e-learn.suezuni.edu.eg" :"195.246.40.171"
}
server.listen(5)
Comunication_socket ,address = server.accept()
print(f"Connection to {address} established" )
while True :
      message = Comunication_socket.recv( 1024).decode( 'utf-8' )
      ip = DNSTable.get(message ,"Not Found" )
      Comunication_socket.send(ip.encode( 'utf-8' ))
```

  - server.py U | client.py U

DNS > client.py > ...

```python
import socket


client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 12345
client.connect((Host, Port))
c = "y"
while c == "y":
      domain = input("Enter the domian name : \n")
      client.send(domain.encode('utf-8'))
      message = client.recv(1024).decode('utf-8')
      print(message)
      c = input("Continue? (y / n)\n")
client.close()
```

  -

```
PS D:\College\Sems\Semester 8\Network Programming\Network Programming Secti
on\Sec5\DNS> py .\server.py
Connection to ('192.168.16.2', 51132) established
```

```
PS D:\College\Sems\Semester 8\Network Programming\Network Programming Secti
on\Sec5\DNS> py .\client.py
Enter the domian name :
www.youtube.com
Not Found
Continue? (y / n)
y
Enter the domian name :
www.facebook.com
157.240.214.35
Continue? (y / n)
y
Enter the domian name :
www.google.com
142.251.35.164
Continue? (y / n)
```

- Download a web page
  -

```
server.py U
Web Page > server.py > ...
1  import socket
2
3
4  server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5  server.connect(("www.facebook.com", 80))
6  server.sendall(b"GET/HTTP/1.1\nHost:www.facebook.com\n")
7  print(server.recv(4096).decode('utf-8'))
```

  -

```
PowerShell
PowerShell
PS D:\College\Sems\Semester 8\Network Programming\Network Programming Section\Sec5\Web Page> py .\server.py
HTTP/1.1 400 Bad Request
Content-Type: text/html; charset=utf-8
Date: Tue, 12 Apr 2022 20:38:38 GMT
Connection: close
Content-Length: 2959

<!DOCTYPE html>
<html lang="en" id="facebook">
  <head>
    <title>Facebook | Error</title>
    <meta charset="utf-8">
    <meta http-equiv="cache-control" content="no-cache">
    <meta http-equiv="cache-control" content="no-store">
    <meta http-equiv="cache-control" content="max-age=0">
    <meta http-equiv="expires" content="-1">
    <meta http-equiv="pragma" content="no-cache">
    <meta name="robots" content="noindex,nofollow">
    <style>
      html, body {
        color: #141823;
        background-color: #e9eaed;
        font-family: Helvetica, Lucida Grande, Arial,
                     Tahoma, Verdana, sans-serif;
        margin: 0;
        padding: 0;
        text-align: center;
      }

      #header {
        height: 30px;
        padding-bottom: 10px;
        padding-top: 10px;
        text-align: center;
      }

      #icon {
        width: 30px;
      }

      h1 {
```

- File Transfer

server.py U client.py U textFile.py U

File Transfer > server.py > ...

```python
import socket


s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 1235
s.bind((Host, Port))
s.listen(5)
client_socket, address = s.accept()
print(f"Connection to {address} established")
fileName = "test.txt"
client_socket.send(fileName.encode('utf-8'))
file = open("test.txt", "rb")
data = file.read()
client_socket.send(data)
file.close()
client_socket.close()
```

server.py U client.py U textFile.py U

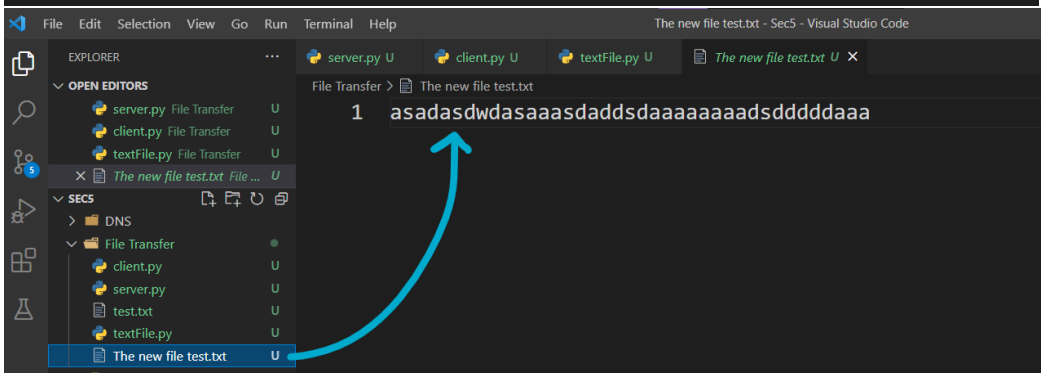
File Transfer > client.py > ...

```python
import socket

client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 1235
client.connect((Host, Port))
file_name = client.recv(1024).decode('utf-8')
file_name = "The new file " + file_name
file = open(file_name, "wb")
data = client.recv(1024)
file.write(data)
file.close()

```

-
```
with open('test.txt', 'w') as f:
    f.write('asadasdwdasaaasdaddsdaaaaaaaaadsdddddaaa')
```

- 

- Image Transfer
-
```
import socket

s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 1235
s.bind((Host, Port))
s.listen(5)
client_socket, address = s.accept()
print(f"Connection to {address} established \n")
name = input("Enter the name of the img: \n")
ext = input("Enter the extension of your received file - jpg, png or bmp\n")
nwImg = name + "." + ext
file = open(nwImg, "wb")
image_data = client_socket.recv(2048)

while image_data:
    file.write(image_data)
    image_data = client_socket.recv(2048)

file.close()
client_socket.close()
```

client.py U server.py U

Image Transfer > client.py > ...

```python
import socket


client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Host = socket.gethostname()
Port = 1235
client.connect((Host, Port))
file = open('f6.jpg', 'rb')
image_data = file.read(2048)

while image_data:
      client.send(image_data)
      image_data = file.read(2048)

file.close()
client.close()
```