server.py:

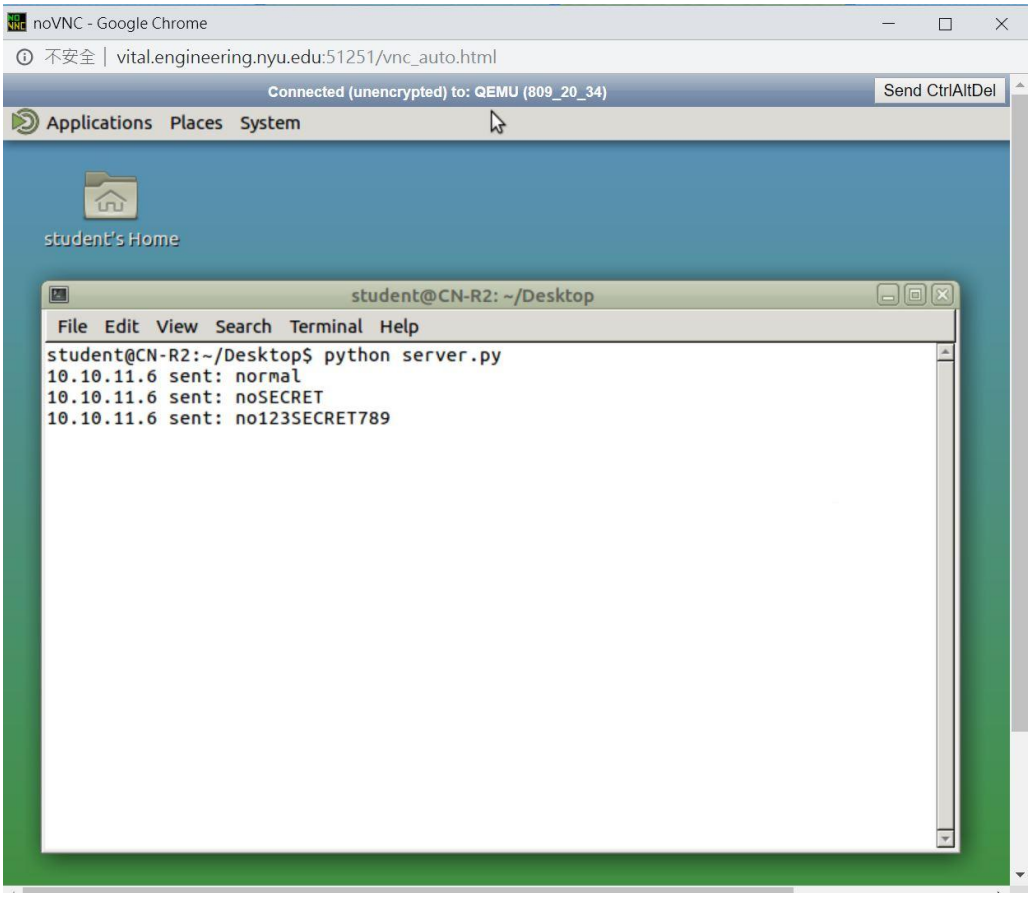
```
import SocketServer
class MyTCPSocketHandler(SocketServer.BaseRequestHandler):
    def handle(self):
        # self.request is the TCP socket connected to the client
        self.data = self.request.recv(1024).strip()
        if "SECRET" in self.data:
            digits=filter(str.isdigit, self.data)
            count=len(digits)
            result="Digits: " + digits + " Count: " + repr(count)
            print("{} sent: ".format(self.client_address[0]) + self.data)
            filename='result.txt'
            f=open(filename,'wb')
            f.write(self.data)
            # return all the digits in the string and count of digits
            self.request.sendall(result)
        else:
            filename='result.txt'
            f=open(filename,'wb')
            f.write(self.data)
            print("{} sent: ".format(self.client_address[0]) + self.data)
            # return the same data
            self.request.sendall(self.data)

if __name__ == "__main__":
    HOST, PORT = "10.10.11.5", 9999
    # instantiate the server and bind to 10.10.11.5 on port 9999
    server = SocketServer.TCPServer((HOST, PORT), MyTCPSocketHandler)
    # activate the server and keep running until Ctrl-C
    server.serve_forever()
```

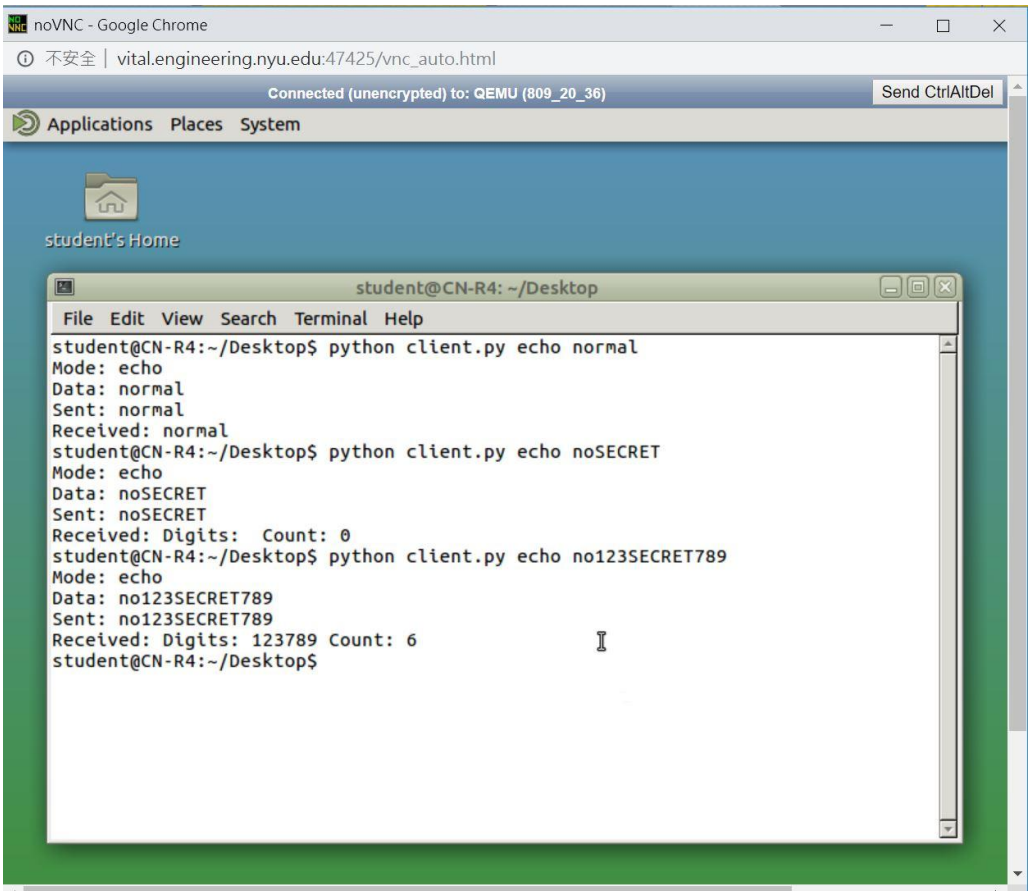
client.py:

```
import socket, sys, os
s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)     # create a TCP
socket
s.connect(("10.10.11.5", 9999))      # connect to server
mode = " ".join(sys.argv[1:2])
data = " ".join(sys.argv[2:])
```

```
fileFound = 0

if mode == 'echo':
	print 'Mode: %s' %mode
	print 'Data: %s' %data

	try:
		s.sendall(bytes(data + "\n"))   # send data to the server
		received = str(s.recv(1024))   # receive data from the server
	finally:
		s.close()

	print("Sent: {}".format(data))
	print("Received: {}".format(received))
elif mode == 'file':
	print 'Mode: %s' %mode
	print 'Data: %s' %data

	try:
		for file in os.listdir("/home/student/Desktop/"):
			if file == data:
				fileFound = 1
				break
		if fileFound == 0:
			print data+" not found"
		else:
			print data+" found"
			sendFile = open("/home/student/Desktop/"+data,"rb")
			sRead = sendFile.read(1024)
			while sRead:
				s.send(sRead)
				sRead = sendFile.read(1024)
			print "Send file successfully"
	finally:
		s.close()
else:
	print 'Please choose Echo mode or File mode'
	s.close()
```

1. Echo Server/Client





2. File transfer