

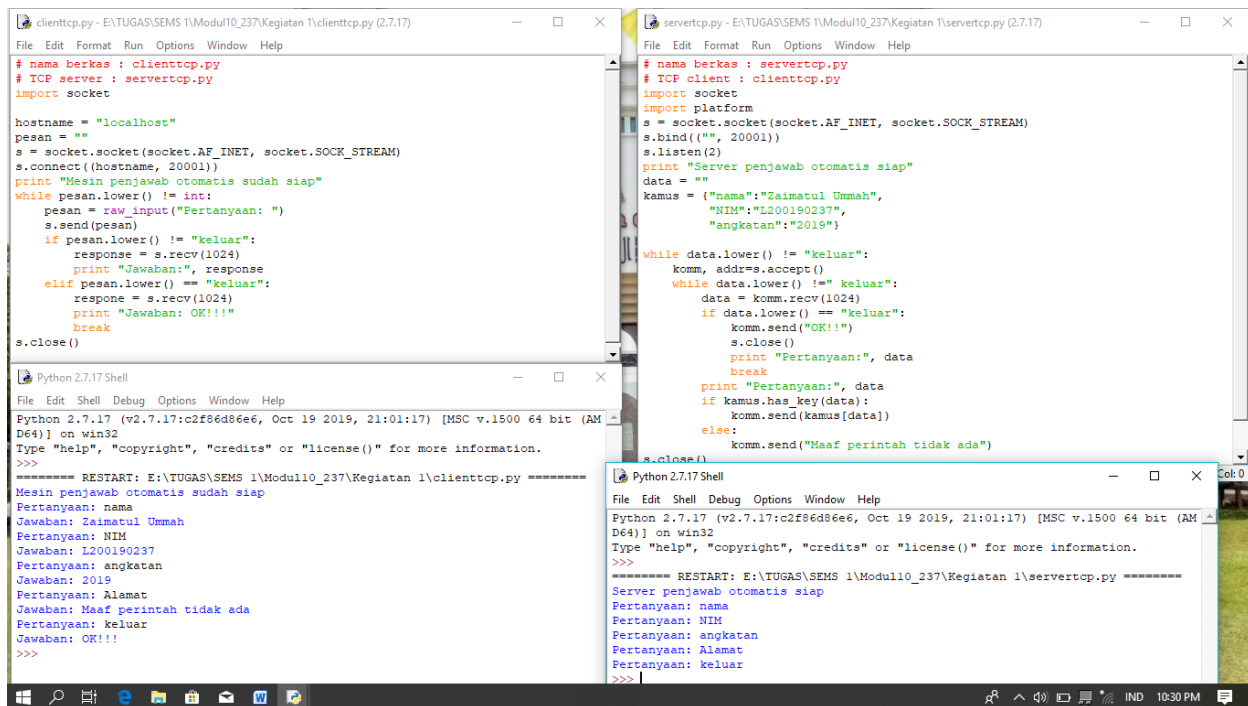
PRAKTIKUM ALGORITMA DAN PEMROGRAMAN

PRAKTIKUM 10: TOPIK LANJUTAN (KOMUNIKASI JARINGAN)

Nama : Zaimatul Ummah

NIM : L200190237

KEGIATAN 1



The screenshot displays three windows from a Windows environment. The top-left window shows the code for a TCP client (clienttcp.py), the top-right window shows the code for a TCP server (servertcp.py), and the bottom window shows the execution of both programs in a Python 2.7.17 Shell.

```
# clienttcp.py - E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 1\clienttcp.py (2.7.17)
File Edit Format Run Options Window Help

# nama berkas : clienttcp.py
# TCP server : servertcp.py
import socket

hostname = "localhost"
pesan = ""
s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.connect((hostname, 20001))
print "Mesin penjawab otomatis sudah siap"
while pesan.lower() != "keluar":
    pesan = raw_input("Pertanyaan: ")
    s.send(pesan)
    if pesan.lower() != "keluar":
        response = s.recv(1024)
        print "Jawaban:", response
    elif pesan.lower() == "keluar":
        response = s.recv(1024)
        print "Jawaban: OK!!!"
        break
s.close()

# servertcp.py - E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 1\servertcp.py (2.7.17)
File Edit Format Run Options Window Help

# nama berkas : servertcp.py
# TCP client : clienttcp.py
import socket
import platform

s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.bind(("*", 20001))
s.listen(2)
print "Server penjawab otomatis siap"
data = ""
kamus = {"nama": "Zaimatul Ummah",
         "NIM": "L200190237",
         "angkatan": "2019"}

while data.lower() != "keluar":
    komm, addr = s.accept()
    while data.lower() != "keluar":
        data = komm.recv(1024)
        if data.lower() == "keluar":
            komm.send("OK!!!")
            s.close()
            print "Pertanyaan:", data
            break
        print "Pertanyaan:", data
        if kamus.has_key(data):
            komm.send(kamus[data])
        else:
            komm.send("Maaf perintah tidak ada")
    s.close()
```

Python 2.7.17 Shell

```
Python 2.7.17 (v2.7.17:c2f86d86e6, Oct 19 2019, 21:01:17) [MSC v.1500 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 1\clienttcp.py =====
Mesin penjawab otomatis sudah siap
Pertanyaan: nama
Jawaban: Zaimatul Ummah
Pertanyaan: NIM
Jawaban: L200190237
Pertanyaan: angkatan
Jawaban: 2019
Pertanyaan: Alamat
Jawaban: Maaf perintah tidak ada
Pertanyaan: keluar
Jawaban: OK!!!
>>>
```

Python 2.7.17 Shell

```
Python 2.7.17 (v2.7.17:c2f86d86e6, Oct 19 2019, 21:01:17) [MSC v.1500 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 1\servertcp.py =====
Server penjawab otomatis siap
Pertanyaan: nama
Pertanyaan: NIM
Pertanyaan: angkatan
Pertanyaan: Alamat
Pertanyaan: keluar
>>>
```

KEGIATAN 2

The image shows two Python 2.7.17 IDE windows. The left window, titled 'tcpclient.py', contains the following code:

```
# nama berkas : tcpclient.py
# TCP server : tcpserver.py
import socket

hostname = "localhost"
pesan = ""
s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.connect((hostname, 20001))
print "Progam komunikasi tentang server"
while pesan.lower() != "quit":
    pesan = raw_input("Pertanyaan: ")
    s.send(pesan)
    if pesan.lower() != int:
        response = s.recv(1024)
        print "Jawaban:", response
    elif pesan.lower() != "quit":
        response = s.recv(1024)
        print "Jawaban:", response
        break
s.close()
```

The right window, titled 'tcpserver.py', contains the following code:

```
# nama berkas : tcpserver.py
# TCP client : tcpclient.py
import socket
import platform

s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.bind(("", 20001))
s.listen(2)
print "Progam server"
data = ""
kamus = {"machine":platform.machine(),
         "release":platform.release(),
         "system":platform.system(),
         "version":platform.version(),
         "node":platform.node(),
         "quit":"OK"}

while data.lower() != "quit":
    komm, addr=s.accept()
    while data.lower() != "quit":
        data = komm.recv(1024)
        if data.lower() == 'quit':
            komm.send(kamus[data])
            break
        print "Pertanyaan:", data
        if kamus.has_key(data):
            komm.send(kamus[data])
```

Below the code windows, a Python 2.7.17 Shell window shows the execution of the client program. It displays a restart message and a series of questions and answers:

```
===== RESTART: E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 2\tcpclient.py =====
Progam komunikasi tentang server
Pertanyaan: machine
Jawaban: AMD64
Pertanyaan: release
Jawaban: 10
Pertanyaan: system
Jawaban: Windows
Pertanyaan: node
Jawaban: DESKTOP-BARIDUN
Pertanyaan: password
Jawaban: Maaf perintah tidak ada
Pertanyaan: quit
Jawaban: OK
>>>
```

KEGIATAN 3

The image shows two Python 2.7.17 IDE windows. The left window, titled 'clienttcp1.py', contains the following code:

```
# nama berkas : clienttcp1.py
# TCP server : servertcp1.py
import socket

hostname = "localhost"
pesan = ""
s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.connect((hostname, 20001))
print "Mesin penghitung luas tabung otomatis sudah siap"
while pesan.lower() != "keluar":
    pesan = str(raw_input("Pesan: "))
    s.send(pesan)
    if pesan.lower() != int:
        response = s.recv(1024)
        print "Jawaban:", response
    elif pesan.lower() != "keluar":
        response = s.recv(1024)
        print "Jawaban:", response
        break
s.close()
```

The right window, titled 'servertcp1.py', contains the following code:

```
# nama berkas : servertcp1.py
# TCP client : clienttcp1.py
import socket

s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
s.bind(("", 20001))
s.listen(20)
print "Server penghitung luas tabung otomatis siap"
data = ""
kamus = {"jari-jari":0,
         "tinggi":0,
         "keluar":"OK!!"}

def hitungluastabung(jari, tinggi):
    import math
    return str(2*math.pi*jari*(jari+tinggi))

while data.lower() != "keluar":
    komm, addr=s.accept()
    while data.lower() != "keluar":
        data = komm.recv(1024)
        angka = data.split()
        if data.lower() == "keluar":
            komm.send(kamus[data])
            s.close()
```

Below the code windows, a Python 2.7.17 Shell window shows the execution of the client program. It displays a restart message and a series of inputs and outputs:

```
===== RESTART: E:\TUGAS\SEMS 1\Modul10_237\Kegiatan 3\clienttcp1.py =====
Mesin penghitung luas tabung otomatis sudah siap
Pesan: parameter = 10
Jawaban: Maaf perintah tidak ada
Pesan: hitung
Jawaban: luas tabung berjari-jari 0 adalah 0.0
Pesan: keluar
Jawaban: OK!!
>>>
```