COMPUTING SUBJECT:	**UDP-Socket programming**
TYPE:	Assignment
IDENTIFICATION:	UDPEchoServer
COPYRIGHT:	*Michael Claudius*
LEVEL:	Easy
TIME CONSUMPTION:	30-50 minutes
EXTENT:	50 lines
OBJECTIVE:	**UDP-sockets**
PRECONDITIONS:	Computer Networks Ch. 2.7
COMMANDS:	

IDENTIFICATION: UDPEchoServer

The Mission
We are first going to explore the UDP socket programming by investigating an UDPEchoServer program, which returns the client-sentence capitalized, and an UDPEchoClient program sending a sentence.

Precondition
You have done the tutorial TCPSocketEcho in the class room.

Useful C# links

- https://msdn.microsoft.com/en-us/library/system.net.sockets.udpclient(v=vs.110).aspx
- https://msdn.microsoft.com/en-us/library/08h8s12k(v=vs.110).aspx
- https://msdn.microsoft.com/en-us/library/cdas754k(v=vs.110).aspx

Assignment 1 Same computer
From your teacher's home page you can download the UDPEchoServerClient.zip-file with the projects: UDPEchoServer and UDPEchoClient. Alternatively maybe your teacher asks you to type them yourself.

Compile.
Run the client and then run the server on the same computer.
What happened and why.

Run the client again.
What happened and why.

In teams discuss each program sentence , so you are sure you comprehend the program.
Remember IPEndPoint represents the remote host from which the data are sent. It contains information about local and remote host ports and is ude to connect to a service……

Assignment 2 Two different computers
Let one computer run the server and the other one run the client.
Now the client project class must to use the correct IP-address of the computer running the server project.

Tip: Remember you can find the IP-address of your computer by the command IPCONFIG in a command prompt.
Click Start -> Programs -> Accessories -> Command prompt
Or just choose: Search -> cmd

Compile and run the programs on two different computers.
What happened and why.

IF you are on a wireless laptop there might be problem with this assignment

In this case use the PC on the fast network.
OR
Use the internal local LAN
OR
Set up your own local network using your smartphone.
REMEMBER
Open port 9999 to accept inbound and outbound UDP-requests.
Choose ControlPanel -> System Security -> Windows Firewall -> Advanced setting
Then select -> Inbound rules -> Create New Rule
And configure UDP to allow to use port 9999.
Finally do the same for Outbound rules.

Assignment 3: Several clients
Now try to run 3 or more clients using the same server at the same time.
What happened and why.

Critical remarks

The present server program does not guarantee deliver.
That's just how it is.