A screenshot of a computer program

Description automatically generated2212420\_LAB04\_Nguyễn Ái Mừng

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| TCP LISTENER | TCP CLIENT |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Net.Sockets;  using System.Text;  using System.Threading.Tasks;  using System.Net;  namespace Lab04\_2212420\_Nguyễn\_Ái\_Mừng  {  internal class Program  {  public static void Main()  {  int recv;  byte[] data = new byte[1024];  TcpListener newsock =new TcpListener(9000); newsock.Start();  Console.WriteLine("Waiting for a client...");  //  TcpClient client = newsock.AcceptTcpClient();  //  NetworkStream ns =client.GetStream();  Console.WriteLine(client.Client.RemoteEndPoint.ToString());  string welcome = "Welcome to the server";  data =Encoding.ASCII.GetBytes(welcome);  ns.Write(data, 0, data.Length);  while (true)  {  data = new byte[1024];  recv=ns.Read(data, 0, data.Length);  if (recv == 0)  break;  Console.WriteLine(Encoding.ASCII.GetString(data, 0, recv)); ns.Write(data, 0, recv);  }  ns.Close();  client.Close();  newsock.Stop();  }  }  } | using System;  using System.Collections.Generic;  using System.Linq;  using System.Net.Sockets;  using System.Text;  using System.Threading.Tasks;  using System.Net;  using System.Net.Sockets;  namespace TCPClient  {  internal class Program  {  public static void Main()  {  byte[] data = new byte[1024]; string input, stringData;  TcpClient server;  try  {  server = new TcpClient("127.0.0.1", 9000);  }  catch (SocketException)  {  Console.WriteLine("Unable to connect to server"); return;  }  //  NetworkStream ns =server.GetStream();  //  int recv = ns.Read(data, 0, data.Length);  stringData=Encoding. ASCII.GetString(data, 0, recv);  Console.WriteLine(stringData);  while (true)  {  input =Console.ReadLine();  if (input == "exit")  break;  ns.Write(Encoding.ASCII.GetBytes(input), 0, input.Length);  ns.Flush();  data=new byte[1024];  recv=ns.Read(data, 0, data.Length);  stringData=Encoding.ASCII.GetString(data, 0, recv);  Console.WriteLine(stringData);  }  Console.WriteLine("Disconnecting from server...");  ns.Close();  server.Close();  }  }  } |

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| A screenshot of a computer program  Description automatically generatedUDP SERVER | UDP CLIENT |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Net.Sockets;  using System.Net;  using System.Text;  using System.Threading.Tasks;  namespace UDPClient  {  internal class Program  {  public static void Main()  {  byte[] data = new byte[1024];  IPEndPoint ipep =new IPEndPoint(IPAddress.Any, 9000);  UdpClient newsock =new UdpClient(ipep);  Console.WriteLine("Waiting for a client...");  IPEndPoint sender = new IPEndPoint(IPAddress.Any, 0);  data=newsock.Receive(ref sender);  Console.WriteLine("Message received from {0}:", sender.ToString());  Console.WriteLine(Encoding.ASCII.GetString(data, 0, data.Length));  string welcome = "Welcome to my test server";  data =Encoding.ASCII.GetBytes(welcome);  newsock.Send(data, data.Length, sender);  while (true)  {  data =newsock. Receive(ref sender);  Console.WriteLine(Encoding.ASCII.GetString(data, 0, data.Length)); newsock.Send(data, data.Length, sender);  }  }  }  } | using System;  using System.Collections.Generic;  using System.Linq;  using System.Net.Sockets;  using System.Net;  using System.Text;  using System.Threading.Tasks;  namespace UDPServer  {  internal class Program  {  public static void Main()  {  byte[] data = new byte[1024];  string input, stringData;  UdpClient server = new UdpClient("127.0.0.1", 9000);  IPEndPoint sender = new IPEndPoint(IPAddress.Any, 0);  string welcome = "Hello, are you there?";  data= Encoding. ASCII.GetBytes(welcome);  server.Send(data, data.Length); data = server.Receive(ref sender);  Console.WriteLine("Message received from {0}:", sender.ToString());  stringData = Encoding.ASCII.GetString(data, 0, data.Length);  Console.WriteLine(stringData);  while (true)  {  input =Console.ReadLine();  if (input == "exit")  break;  server.Send(Encoding.ASCII.GetBytes(input), input.Length);  data =server. Receive(ref sender);  stringData =Encoding. ASCII.GetString(data, 0, data.Length);  Console.WriteLine(stringData);  }  Console.WriteLine("Stopping client");  server.Close();  }  }  } |

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| A screenshot of a computer  Description automatically generatedServerTCPEmployee | ClientTCPEmployee |
| using System.Net.Sockets;  using System;  using System.Net;  using System.Text;  class EmployeeSrvr  {  public static void Main()  {    byte[] data = new byte[1024];  TcpListener server = new TcpListener(9050);  server.Start();  TcpClient client = server.AcceptTcpClient();  NetworkStream ns = client.GetStream();  byte[] size = new byte[2];  int recv = ns.Read(size, 0, 2);  int packsize = BitConverter.ToInt16(size, 0);  Console.WriteLine("packsize = {0}", packsize);  recv = ns.Read(data, 0, packsize);  Employee emp1 = new Employee(data);  Console.WriteLine("emp1.EmployeeID = {0}", emp1.EmployeeID);  Console.WriteLine("emp1.LastName = {0}", emp1.LastName);  Console.WriteLine("emp1.FirstName = {0}", emp1.FirstName);  Console.WriteLine("emp1.YearsService = {0}", emp1.YearsService);  Console.WriteLine("emp1.Salary = {0}\n", emp1.Salary);  size = new byte[2];  recv = ns.Read(size, 0, 2);  packsize = BitConverter.ToInt16(size, 0);  data = new byte[packsize];  Console.WriteLine("packsize = {0}", packsize);  recv = ns.Read(data, 0, packsize);  Employee emp2 = new Employee(data);  Console.WriteLine("emp2.EmployeeID = {0}", emp2.EmployeeID);  Console.WriteLine("emp2.LastName = {0}", emp2.LastName);  Console.WriteLine("emp2.FirstName = {0}", emp2.FirstName);  Console.WriteLine("emp2.YearsService = {0}", emp2.YearsService);  Console.WriteLine("emp2.Salary = {0}", emp2.Salary);  ns.Close();  client.Close();  server.Stop();  Console.ReadKey();  }  } | using System.Net.Sockets;  using System.Net;  using System;  using System.Text;  class EmployeeClient  {  public static void Main()  {    Employee emp1 = new Employee();  Employee emp2 = new Employee();  TcpClient client;  emp1.EmployeeID = 1;  emp1.LastName = "Nguyen";  emp1.FirstName = "Ai Mung";  emp1.YearsService = 4;  emp1.Salary = 35000.50;  emp2.EmployeeID = 2;  emp2.LastName = "Mung";  emp2.FirstName = "Nguyen Ai";  emp2.YearsService = 9;  emp2.Salary = 23700.30;  try  {  client = new TcpClient("127.0.0.1", 9050);  }  catch (SocketException)  {  Console.WriteLine("Không kết nối với server được, thử lại sau");  return;  }  NetworkStream ns = client.GetStream();  byte[] data = emp1.GetBytes();  int size = emp1.size;  byte[] packsize = new byte[2];  Console.WriteLine("packet size = {0}", size);  packsize = BitConverter.GetBytes(size);  ns.Write(packsize, 0, 2);  ns.Write(data, 0, size);  ns.Flush();  data = emp2.GetBytes();  size = emp2.size;  packsize = new byte[2];  Console.WriteLine("packet size = {0}", size);  packsize = BitConverter.GetBytes(size);  ns.Write(packsize, 0, 2);  ns.Write(data, 0, size);  ns.Flush();  ns.Close();  client.Close();  Console.ReadKey();  }  } |