Chat room

Server:

namespace project

{

class Program

{

static List<TcpClient> clients = new List<TcpClient>();

static int count = 0;

static void Main(string[] args)

{

Console.WriteLine("This is server");

Handler ob = new Handler();

TcpListener listener = null;

try

{

listener = new TcpListener(IPAddress.Parse("192.168.0.103"), 8080);

listener.Start();

Console.WriteLine("EchoServer started...");

while (true)

{

TcpClient client = listener.AcceptTcpClient();

count++;

clients.Add(client);

Thread n = new Thread(() => ob.handle(client, count));

n.Start();

}

}

catch (Exception e)

{

Console.WriteLine(e);

}

finally

{

if (listener != null)

{

listener.Stop();

}

}

}

public static void broadcast(string msg, int id)

{

Console.WriteLine("Received : " + msg);

foreach (TcpClient item in clients)

{

StreamWriter writer = new StreamWriter(item.GetStream());

// Console.Write("id is :" + id + " :");

writer.WriteLine("Message From:" + id + " : " + msg);

// writer.WriteLine("Client 1:"+ clients[count]);

writer.Flush();

}

}

}

public class Handler

{

public void handle(TcpClient client, int id)

{

StreamReader reader = new StreamReader(client.GetStream());

while (true)

{

string n = reader.ReadLine();

Console.Write("Client id is :" + id + " :");

Program.broadcast(n, id);

}

}

}

}

Client:

namespace ClientSide

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("This is client");

try

{

TcpClient client = new TcpClient("192.168.0.103", 8000);

Handler a = new Handler();

Thread n = new Thread(() => a.read(client));

n.Start();

Thread n2 = new Thread(() => a.write(client));

n2.Start();

}

catch (Exception e)

{

Console.WriteLine(e);

}

}

}

public class Handler

{

public void read(TcpClient client)

{

while (true)

{

StreamReader reader = new StreamReader(client.GetStream());

string n = reader.ReadLine();

Console.WriteLine(n);

}

}

public void write(TcpClient client)

{

while (true)

{

StreamWriter w = new StreamWriter(client.GetStream());

string n = Console.ReadLine();

w.WriteLine(n);

w.Flush();

}

}

}

}

Web crawler:

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Net;

namespace ConsoleApplication9

{

class Program

{

public static Stack<string> s = new Stack<string>();

public static List<string> visited = new List<string>();

static void Main(string[] args)

{

s.Push("https://en.wikipedia.org/wiki/Pakistan);

while (s.Count>0)

{

crawl(s.Pop());

}

//Console.WriteLine(html);

}

public static void crawl(string link)

{

if (visited.Contains(link) == false)

{

WebClient w = new WebClient();

visited.Add(link);

ServicePointManager.Expect100Continue = true;

ServicePointManager.SecurityProtocol = (SecurityProtocolType)3072;

string html = w.DownloadString(link);

string[] links = html.Split('<');

foreach (var item in links)

{

if (item.IndexOf("a href") > -1)

{

string seed = item.Split('=')[1];

seed = seed.Split('\"')[1];

if (seed.IndexOf("https://") > -1)

{

s.Push(seed);

Console.WriteLine(seed);

}

}

}

Console.WriteLine("~~~~~~~~");

}

}

}

}

Parallel and distributed computing:

Sever:

class Program

{

static void Main(string[] args)

{

Console.WriteLine("This is server");

TcpListener listener = null;

HumariPyariclass friwali = new HumariPyariclass();

int[] arr = new int[10000];

for (int i = 0; i < arr.Length; i++)

{

arr[i] = i;

}

try

{

listener = new TcpListener(IPAddress.Parse("172.16.1.114"), 8080);

listener.Start();

int c =200;

friwali.ansrs = new int[c];

for (int i = 0; i < c; i++)

{

friwali.ansrs[i] = -1;

}

int n2=1;

int dist= arr.Length/c;

while (n2<=c)

{

int start = (n2 - 1) \* dist;

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int end = (n2 \* dist) - 1;

int id = n2 - 1;

TcpClient client = listener.AcceptTcpClient();

Thread n = new Thread(() => friwali.Handle(client,arr,start,id,end));

n.Start();

n2++;

}

Thread n3 = new Thread(() => friwali.monitor(c));

n3.Start();

}

catch (Exception e)

{

Console.WriteLine(e);

}

finally

{

if (listener != null)

{

listener.Stop();

}

}

}

}

public class HumariPyariclass

{

public int[] ansrs;

public void Handle(TcpClient client,int[] arr, int start, int id, int end)

{

StreamReader reader = new StreamReader(client.GetStream());

StreamWriter writer = new StreamWriter(client.GetStream());

string data = "";

for (int i = start; i <=end; i++)

{

data = data+arr[i].ToString() + ",";

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}

data = data.Substring(0, data.Length - 1);

Console.WriteLine(id+" sending : "+data);

writer.WriteLine(data);

writer.Flush();

string s2 = reader.ReadLine();

int s = Convert.ToInt32(s2);

Console.WriteLine(id + " received : " + s2);

ansrs[id] = s;

reader.Close();

writer.Close();

client.Close();

}

public void monitor(int c)

{

int count = c;

while (count > 0)

{

count = 0;

for (int i = 0; i < ansrs.Length; i++)

{

if (ansrs[i] == -1)

{

count++;

}

}

}

Console.WriteLine(ansrs.Sum());

}

}

}

Client:

class Program

{

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static void Main(string[] args)

{

Console.WriteLine("This is client");

try

{

TcpClient client = new TcpClient("172.16.1.114", 8080);

StreamReader reader = new StreamReader(client.GetStream());

StreamWriter writer = new StreamWriter(client.GetStream());

string data = reader.ReadLine();

Console.WriteLine("received : " + data);

string[] no = data.Split(',');

int s = 0;

for (int i = 0; i < no.Length; i++)

{

s = s + Convert.ToInt32(no[i]);

}

writer.WriteLine(s.ToString());

Console.WriteLine("sending : " + s);

writer.Flush();

reader.Close();

writer.Close();

client.Close();

}

catch (Exception e)

{

Console.WriteLine(e);

}

}

}

}