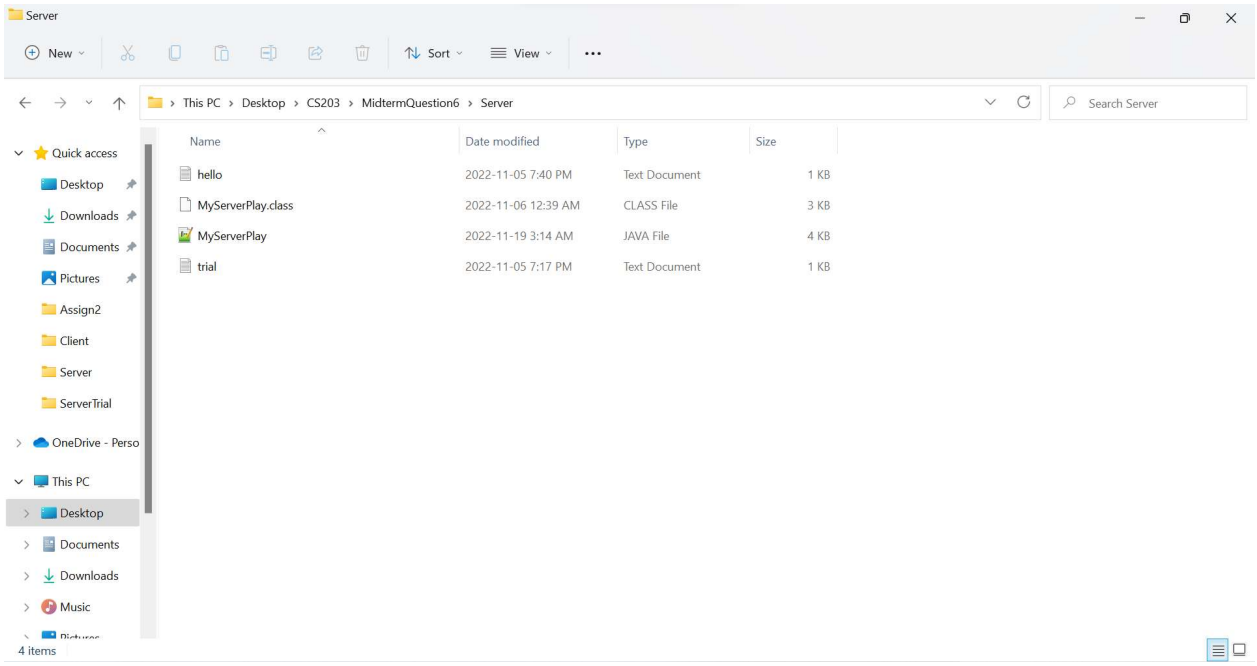
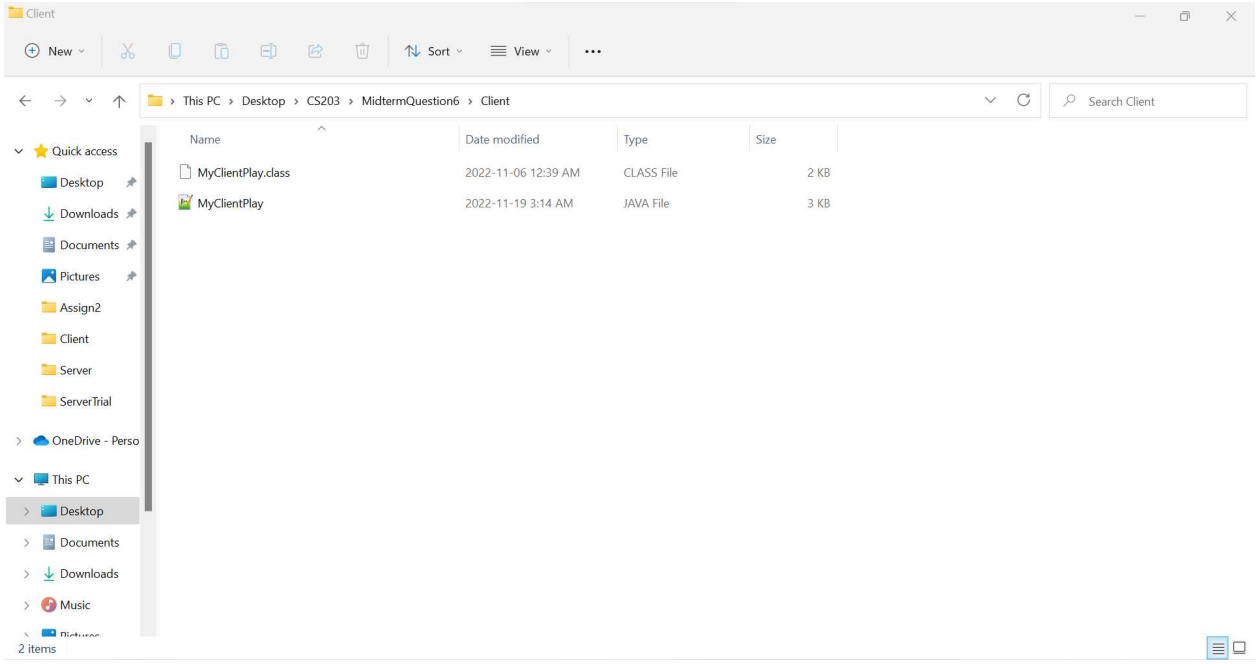
Nisarg Patel

Before we run the code to transfer the file.

Server folder:



Client folder:



Client Code:

```
/*
Student Name: Nisarg Patel
Student ID: 200402077
*/

// A simple program to transfer file from the server to client

//This is my client code

//Included all the necessary packages
import java.net.*;
import java.io.*;
import java.util.Scanner;

public class MyClientPlay{

	//Declaring necessary variables
	private static DataOutputStream dataOutputStream = null;
	private static DataInputStream dataInputStream = null;


	public static void main(String[] args) throws IOException{
		//I had to use ipconfig to get the IP for the server and
hardcode the IP here.
		Socket s = new Socket("142.3.71.54", 4999);
		Scanner sc = new Scanner(System.in);

	//Asking the user the file name they want
	System.out.println("What's the file name you want?");
	String fileName = sc.nextLine();

	//Pushing the file name to the server
	PrintWriter pr = new PrintWriter(s.getOutputStream());
	pr.println(fileName);
	pr.flush();

	//Declaring all necessary variables and assign respective functions
	InputStreamReader in = new InputStreamReader(s.getInputStream());
	BufferedReader bf = new BufferedReader(in);
	dataInputStream = new DataInputStream(
				s.getInputStream());
```

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      //See if the file is found in server or not
      String tempFile = bf.readLine();

      //If we find the file then the client will receive the file and store
it in the current directory.
      if(tempFile.equals("true"))
      {
            //Logic to store the file received from server
            int bytes = 0;
            FileOutputStream fileOutputStream
                  = new FileOutputStream(fileName);
            // read file size
            long size = dataInputStream.readLong();
            //create the array to get the file chunks
            byte[] buffer = new byte[4 * 1024];
            while (size > 0
                  && (bytes = dataInputStream.read(
                              buffer, 0,
                              (int)Math.min(buffer.length, size)))
                              != -1) {
                  // Here we write the file using write method
                  fileOutputStream.write(buffer, 0, bytes);
                  size -= bytes; // read upto file size
            }
            // Here we complete receiving file
            System.out.println("File is Received");
            fileOutputStream.close();
      }

      //Here we find out that the file was not been found
      else{
            System.out.println("File not found");
      }

      //Getting statistics from the server
      System.out.println(bf.readLine());
      System.out.println(bf.readLine());


      s.close();
}
}
```

Server Code:

```
/*
Student Name: Nisarg Patel
Student ID: 200402077
*/

// A simple program to transfer file from the server to client

//This is my server code

//Included all the necessary packages
import java.net.*;
import java.io.*;
import java.util.Scanner;

public class MyServerPlay{

	//Declaring variables for statistics
	public static int N = 0; //N is the total number of requests so far
	public static int M = 0; //M is the number of successful requests


	public static void main(String[] args) throws IOException{

		ServerSocket ss = new ServerSocket(4999);


		//To keep the server always online
		while(true){
		Socket s = ss.accept();

		//When the client get connected, it will show the message on
server
		System.out.println("client connected");

		//Here we get the IP address for the client connected
		InetSocketAddress socketAddress =
(InetSocketAddress)s.getRemoteSocketAddress();

		//Here we print out the client IP to the server
		String clientIpAddress =
```

```
socketAddress.getAddress().getHostAddress();
            System.out.println(clientIpAddress);

            //Getting ready to receive data from the client
            InputStreamReader in = new
InputStreamReader(s.getInputStream());
            BufferedReader bf = new BufferedReader(in);

            //Getting file name from the client
            String str = bf.readLine();

            //Printing the file name the client requested
            System.out.println("client requested: " + str);

            //Getting the current directory where the server code is
            String dir = System.getProperty("user.dir");

            //Adding the file name to the server, which client requested
            str = dir + "\\" + str;

            //Insert the file in the tmpDir, if file found at the directory
            File tmpDir = new File(str);


            //To print it to the client and also put true in the parameter
so that we don't need to use the pr.flush every time.
            PrintWriter pr = new PrintWriter(s.getOutputStream(), true);



            DataOutputStream dataOutputStream = new
DataOutputStream(s.getOutputStream());


            //If file exists then it will go through this if conditions
            if(tmpDir.exists())
            {
                  //It will send the message "true" to the client
                  pr.println("true");

                  //Increment the M variable, the successful requests so
far
                  M++;
```

```
                //Will print the sending the file on the server to state
that the file is started to transfer to the client
                System.out.println("Sending the File to the Client");

        int bytes = 0;
            // Open the File where he located in your pc
            FileInputStream fileInputStream
                  = new FileInputStream(tmpDir);

            // Here we send the File to Server
            dataOutputStream.writeLong(tmpDir.length());
            // Here we break file into chunks
            byte[] buffer = new byte[4 * 1024];
            while ((bytes = fileInputStream.read(buffer))
                  != -1) {
            // Send the file to Server Socket
            dataOutputStream.write(buffer, 0, bytes);
                  dataOutputStream.flush();
            }
            // close the file here
            fileInputStream.close();

            }

            //If the file doesn't exists then it will go through the else
loop
            else {

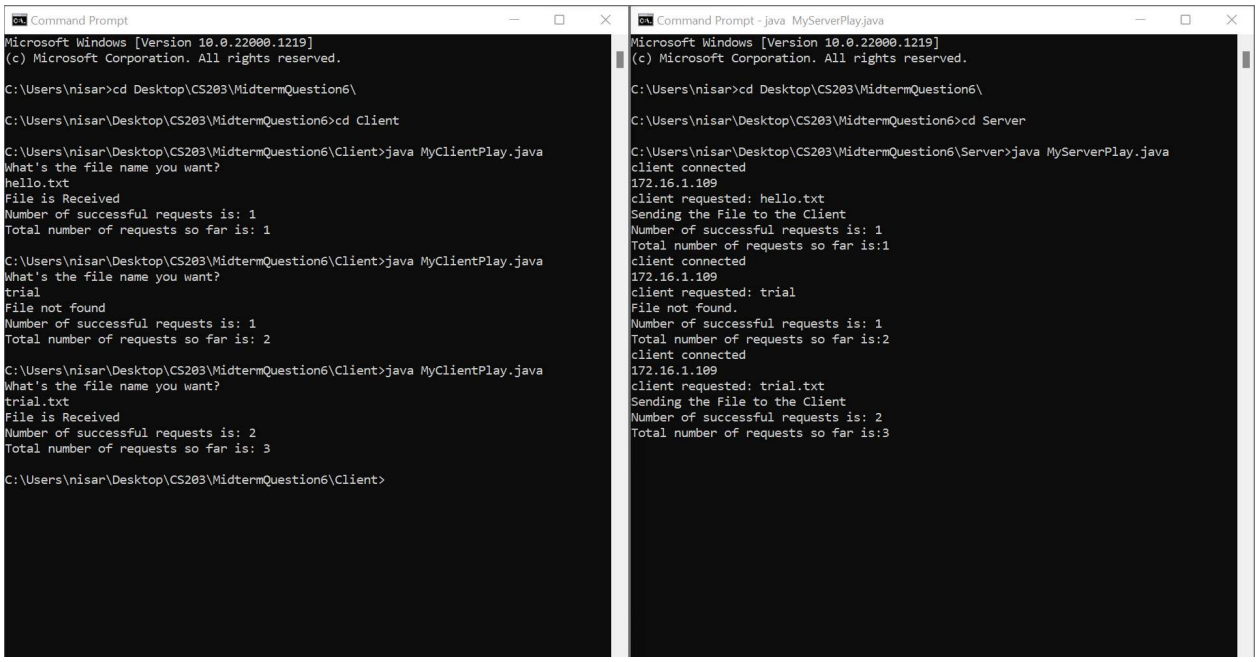
                  //It will send the message "false" to the client
                  pr.println("false");

                  //Will print the "File not found" on the server, if no
file found
                  System.out.println("File not found.");
            }
            //Here we increase the N variable, Total number of requests so
far
            N++;

            //Print out the necessary  statistics
            System.out.println("Number of successful requests is: " + M);
            System.out.println("Total number of requests so far is:" + N);
```

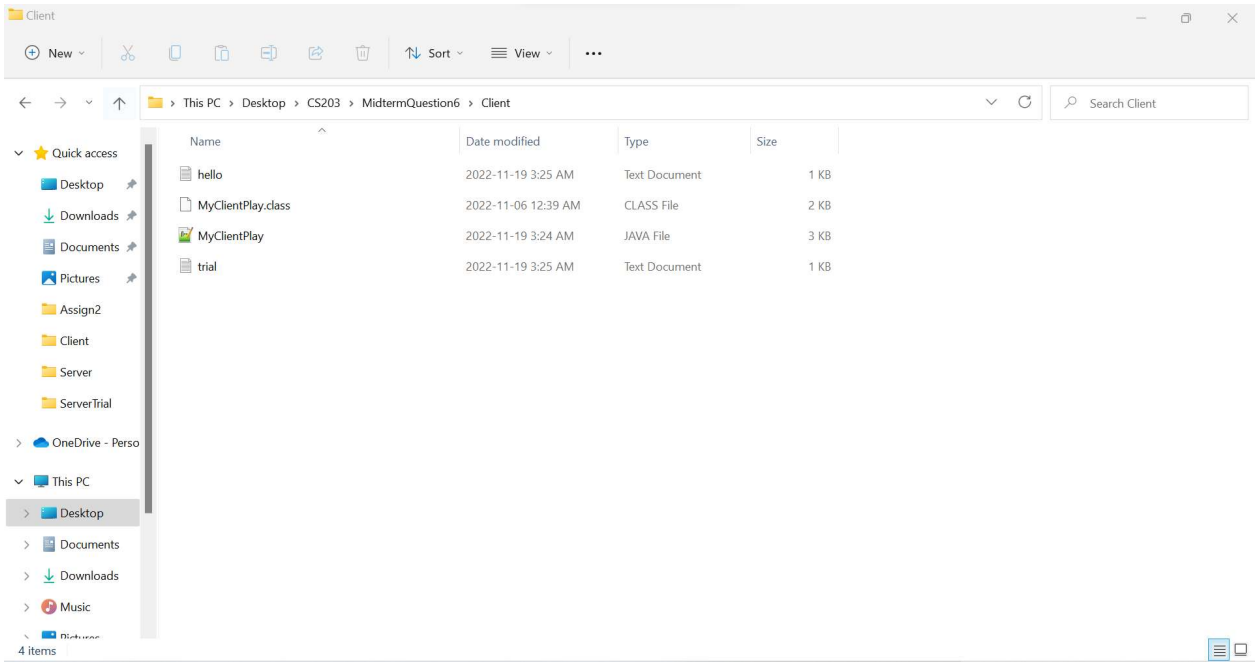
```
      //Here we push all the necessary statistics to the client
      pr.println("Number of successful requests is: " + M);
      pr.println("Total number of requests so far is: " + N);
            }
      }
}
```

Now below is the screenshot of the working code:



To run the code I have to change the IP to the one I was using at that time when I ran the code.

After running the code the look of the Client folder:


Client
New
Sort
View
This PC › Desktop › CS203 › MidtermQuestion6 › Client
Search Client
Quick access
Desktop
Downloads
Documents
Pictures
Assign2
Client
Server
ServerTrial
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4 items