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CS 380

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Exercise 1

GitHub link: <https://github.com/genevieveleach/school-projects/tree/master/CS%20380/Exercise%201>

**Source Code:**

EchoServer.java

**import** java.io.\*;  
**import** java.net.ServerSocket;  
**import** java.net.Socket;  
  
**public final class** EchoServer {  
  
 **private static** Socket socket;  
  
 **public static void** main(String[] args) **throws** Exception {  
  
 Runnable client = () -> {  
 **try** {  
 Socket clientSocket = socket;  
 String address = clientSocket.getInetAddress().getHostAddress();  
 System.out.printf(**"Client connected: %s%n"**, address);  
 OutputStream os = clientSocket.getOutputStream();  
 PrintStream out = **new** PrintStream(os, **true**, **"UTF-8"**);  
 out.printf(**"Hi %s, thanks for connecting!%n"**, address);  
  
 InputStream is = clientSocket.getInputStream();  
 InputStreamReader isr = **new** InputStreamReader(is, **"UTF-8"**);  
 BufferedReader br = **new** BufferedReader(isr);  
 String in = **null**;  
 **while** (**true**) {  
 in = br.readLine();  
 **if** (in.trim().toLowerCase().equals(**"exit"**)) {  
 **break**;  
 }  
 out.println(in);  
 }  
 System.out.printf(**"Client disconnected: %s%n"**, address);  
 clientSocket.close();  
 } **catch** (Exception e) {  
 e.printStackTrace();  
 }  
 };  
  
 **try**(ServerSocket serverSocket = **new** ServerSocket(22222)) {  
 **while**(**true**) {  
 socket = serverSocket.accept();  
 Thread newClient = **new** Thread(client);  
 newClient.start();  
 }  
 }  
  
 }  
}

EchoClient.java

**import** java.io.\*;  
**import** java.net.Socket;  
  
**public final class** EchoClient {  
  
 **public static void** main(String[] args) **throws** Exception {  
 **try** (Socket socket = **new** Socket(**"localhost"**, 22222)) {  
 InputStream is = socket.getInputStream();  
 InputStreamReader isr = **new** InputStreamReader(is, **"UTF-8"**);  
 BufferedReader br = **new** BufferedReader(isr);  
  
 OutputStream os = socket.getOutputStream();  
 PrintStream out = **new** PrintStream(os, **true**, **"UTF-8"**);  
 BufferedReader kb = **new** BufferedReader(**new** InputStreamReader(System.in));  
 System.out.println(**"Server> "** + br.readLine());  
 String kbIn;  
 **do** {  
 System.out.print(**"Client> "**);  
 kbIn = kb.readLine();  
 out.println(kbIn);  
 String SIn = br.readLine();  
 **if** (SIn != **null**) {  
 System.out.println(**"Server> "** + SIn);  
 }  
 } **while**(!kbIn.trim().toLowerCase().equals(**"exit"**));  
 }  
 }  
}