

**README FILE**  
**HOW TO COMPILE AND RUN MY CODE?**  
**CECS 326**  
**PROJECT 1**  
**BY AVLOKITA SHARMA**  
**DUE: FEBRUARY 26, 2023, 11:59 PM**

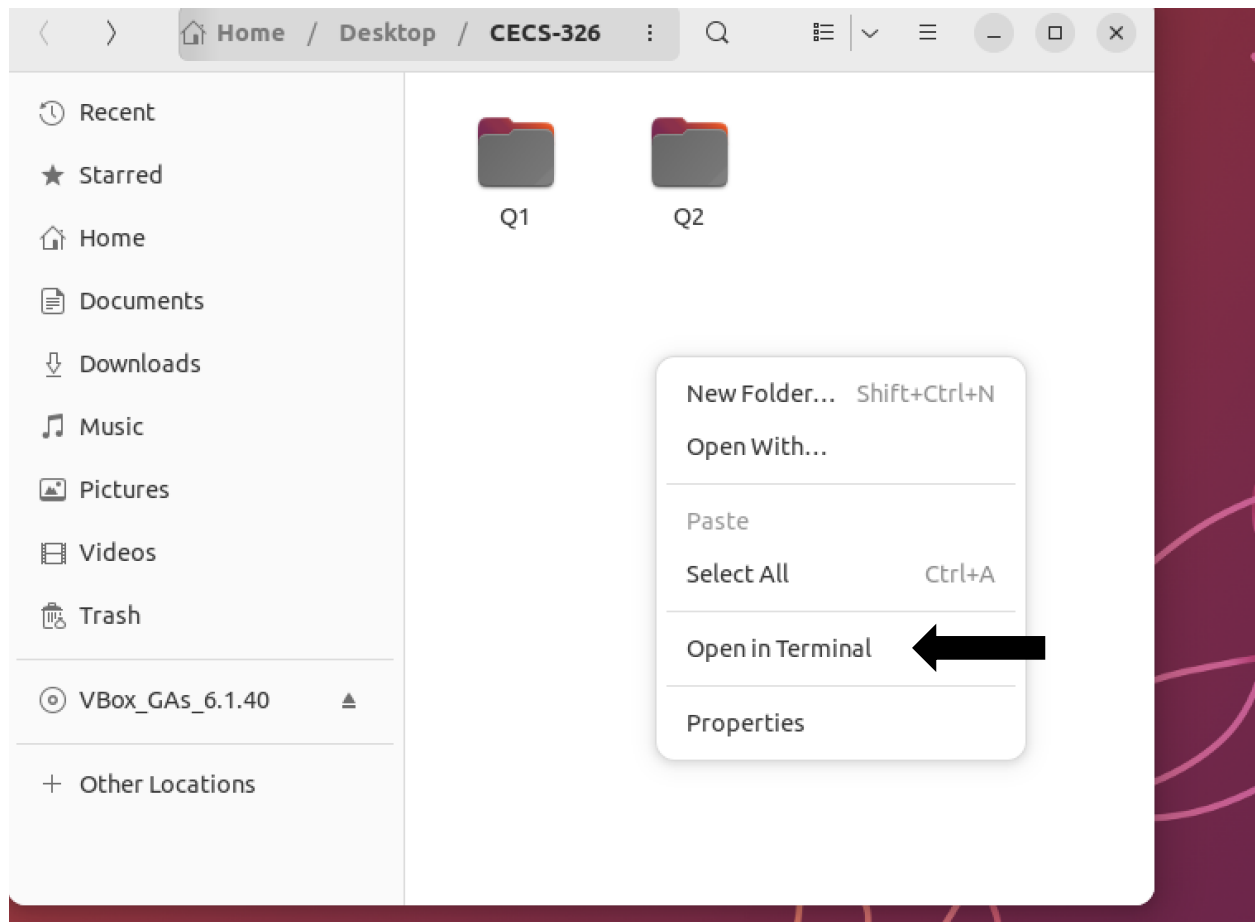
## Question 1:

### How to print motivational quotes from the server, port 6017

#### Step 1:

By now, Ubuntu should be installed in your VirtualBox. If not, install and run Ubuntu to follow the steps on this file.

Open Ubuntu. Navigate to your folder in which you have stored your java files. In the folder, right click on the screen and click on “Open in Terminal” as suggested in the image:



This way it will be easier to navigate and run the code on the terminal instead of changing directories all the time.

### Step 2:

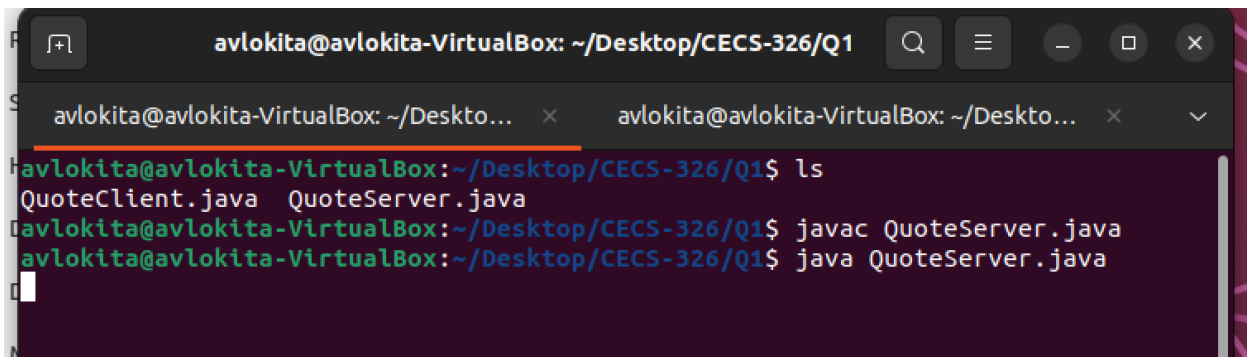
Next, in the open terminal, type “cd Q1” This will change the directory to Q1, and you will be able to access files from Q1 easily.

### Step 3:

Type “ls” into the command line to make sure that we are in the right folder. By typing this command, you will get the name of the files that particular folder contains.

We will start with QuoteServer.java file:

1. Type “javac QuoteServer.java” and click enter. [javac compiles java file]
  2. Type “java QuoteServer.java” and click enter. [to run the java file]
- OR**
- Press *upper-arrow* key and command (1) gets printed. Delete the ‘c’ and press enter.

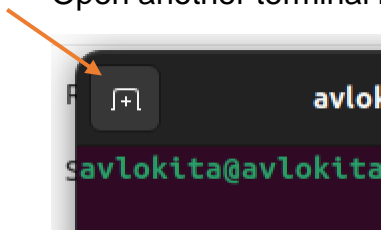


```
avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q1
avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q1$ ls
QuoteClient.java  QuoteServer.java
avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q1$ javac QuoteServer.java
avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q1$ java QuoteServer.java
```

Nothing should be displayed while the code is executed.

### Step 4:

Open another terminal by clicking on this icon:



Another terminal should appear in the same window.

Use “alt+1” and “alt+2” to switch between windows 1 and 2.

### Step 5:

Now run the command “ls” on new window. This will display all the files we have in the folder. Now, we will start with QuoteClient.java file:

1. Type “javac QuoteClient.java” and click enter. [javac compiles java file]
2. Type “java QuoteClient.java” and click enter. [to run the java file]

**OR**

Press *upper-arrow* key and command (1) gets printed. Delete the ‘c’ and press enter.

After that, Quote of the day will be shown.

Sometimes, you might have to run it several times. But it will work.

```
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ ls
QuoteClient.java  QuoteServer.class  QuoteServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ javac QuoteClient.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ java QuoteClient.java
Quote of the day:
Be faithful to that which exists within yourself!

avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ java QuoteClient.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ java QuoteClient.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ java QuoteClient.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$ java QuoteClient.java
Quote of the day:
Don't judge everyday by harvest you reap, but by the seeds you plant!

avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q1$
```

To end the session, type “ctrl+c” and the session will be ended.

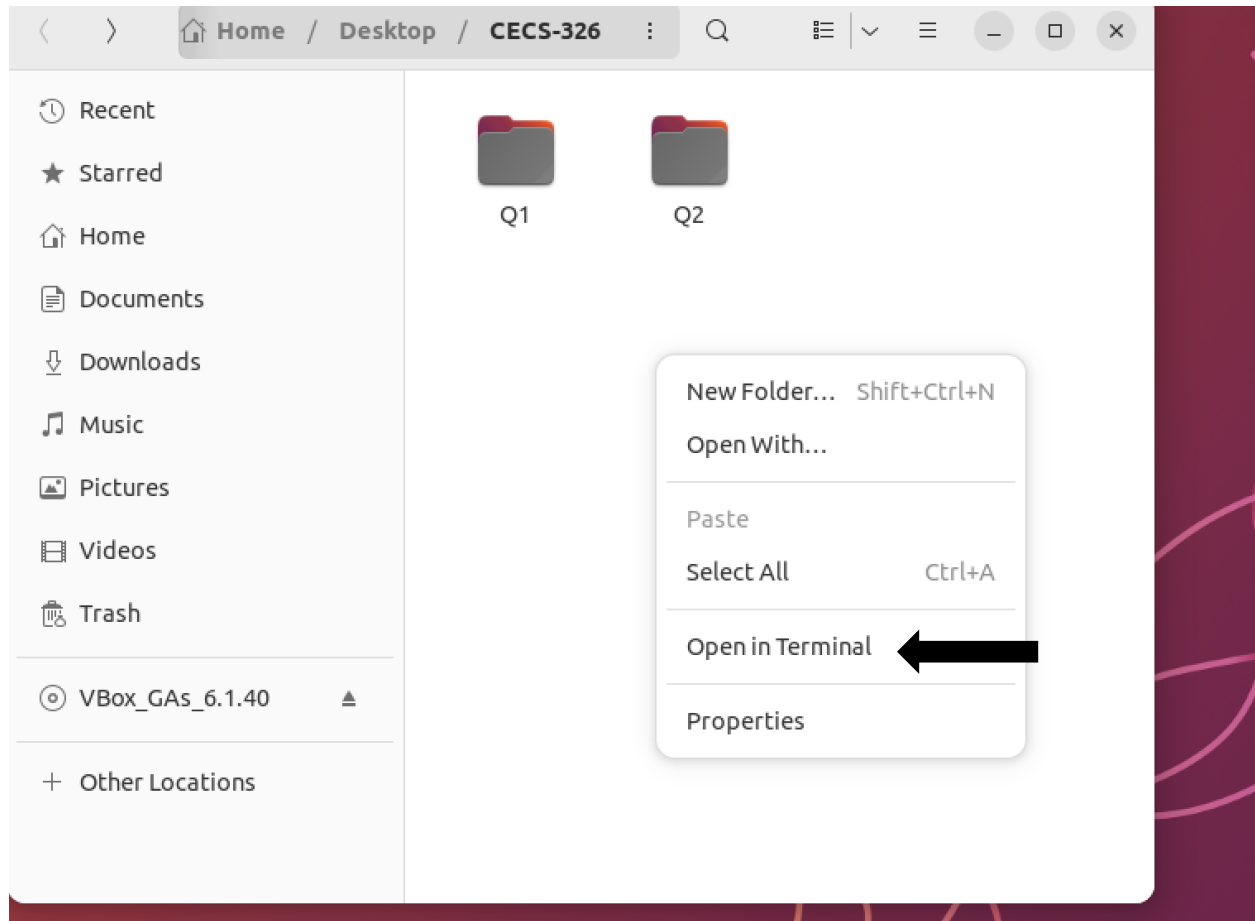
### Question 2:

#### Client and Server Communication, port 6007

### Step 1:

By now, Ubuntu should be installed in your VirtualBox. If not, install and run Ubuntu to follow the steps on this file.

Open Ubuntu. Navigate to your folder in which you have stored your java files. In the folder, right click on the screen and click on “Open in Terminal” as suggested in the image:



This way it will be easier to navigate and run the code on the terminal instead of changing directories all the time.

## Step 2:

Next, in the open terminal, type “cd Q2” This will change the directory to Q2, and you will be able to access files from Q2 easily.

### Step 3:

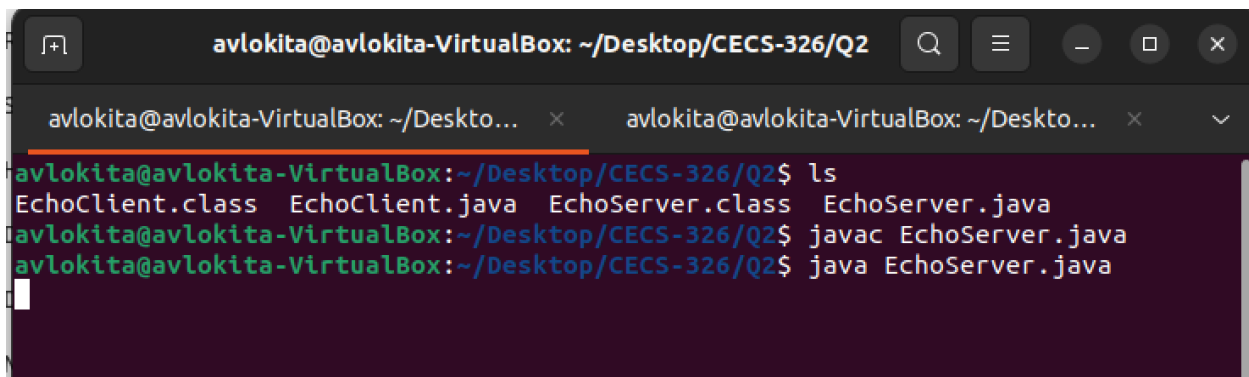
Type “ls” into the command line to make sure that we are in the right folder. By typing this command, you will get the name of the files that particular folder contains.

We will start with EchoServer.java file:

1. Type “javac EchoServer.java” and click enter. [javac compiles java file]
2. Type “java EchoServer.java” and click enter. [to run the java file]

**OR**

Press *upper-arrow* key and command (1) gets printed. Delete the ‘c’ and press enter.

A terminal window titled 'avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q2'. The window shows the following commands and output:

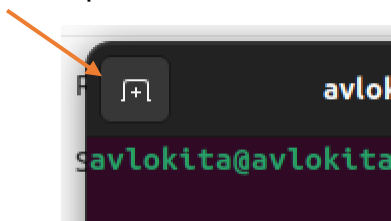
```
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ ls
EchoClient.class  EchoClient.java  EchoServer.class  EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ javac EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ java EchoServer.java
```

[Incase, you don't see the “.class” files. It's okay. Ubuntu showed them automatically]

Nothing should be displayed.

### Step 4:

Open another terminal by clicking on this icon:



Another terminal should appear in the same window.

Use “alt+1” and “alt+2” to switch between windows 1 and 2.

### Step 5:

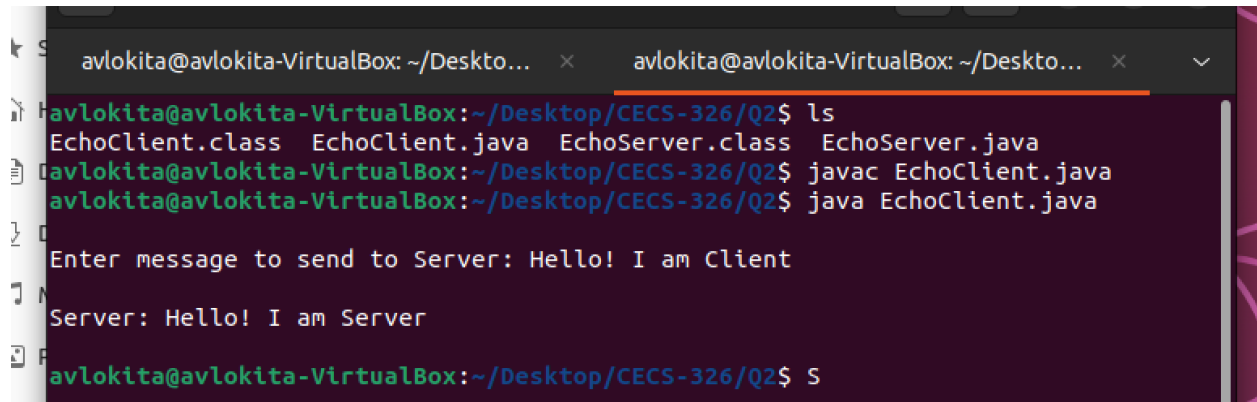
Now run the command “ls” on new window. This will display all the files we have in the folder. Now, we will start with EchoClient.java file:

1. Type “javac EchoClient.java” and click enter. [javac compiles java file]
2. Type “java EchoClient.java” and click enter. [to run the java file]

**OR**

Press *upper-arrow* key and command (1) gets printed. Delete the ‘c’ and press enter.

Sometimes, you might have to run it several times. But it will work.



```
avlokita@avlokita-VirtualBox: ~/Desktop/CECS-326/Q2$ ls
EchoClient.class  EchoClient.java  EchoServer.class  EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ javac EchoClient.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ java EchoClient.java
Enter message to send to Server: Hello! I am Client
Server: Hello! I am Server
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$
```

A message will be appeared. It will ask for a String message to be sent to server.

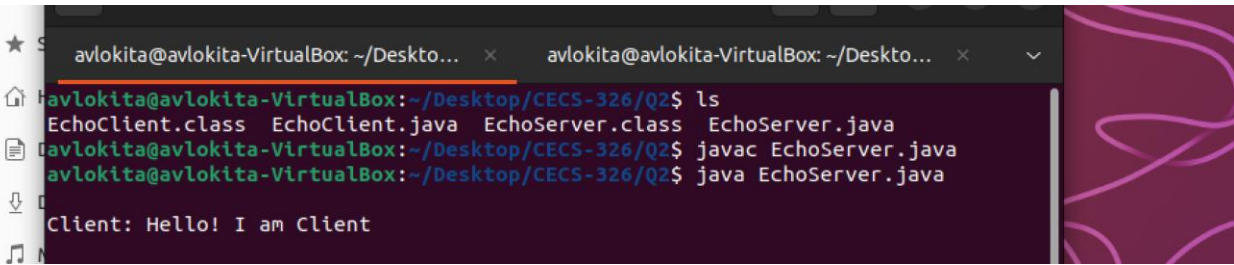
Type “Hello! I am Client”

A message will be displayed from Server saying “ Hello! I am Server” Basically the server will echo back the same thing to the client.

And the code will stop.

### Step 5:

Now if we check the Server terminal, we will see that Client sent a message to Server, as seen in the image.

A terminal window with a dark background and light-colored text. The window title bar shows two tabs, both labeled 'avlokita@avlokita-VirtualBox: ~/Desкто...'. The terminal content shows the user 'avlokita' at the prompt 'avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2\$'. They run 'ls', which lists 'EchoClient.class', 'EchoClient.java', 'EchoServer.class', and 'EchoServer.java'. Then they run 'javac EchoServer.java' and 'java EchoServer.java'. The output is 'Client: Hello! I am Client'.

```
avlokita@avlokita-VirtualBox: ~/Desкто... x avlokita@avlokita-VirtualBox: ~/Desкто... x v
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ ls
EchoClient.class  EchoClient.java  EchoServer.class  EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ javac EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ java EchoServer.java
Client: Hello! I am Client
```

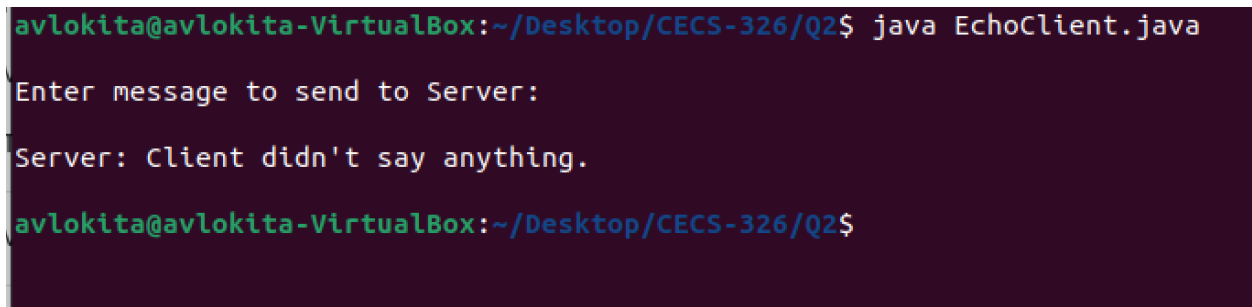
## Step 6:

Now, let's assume that Client didn't say send anything. What will happen then?

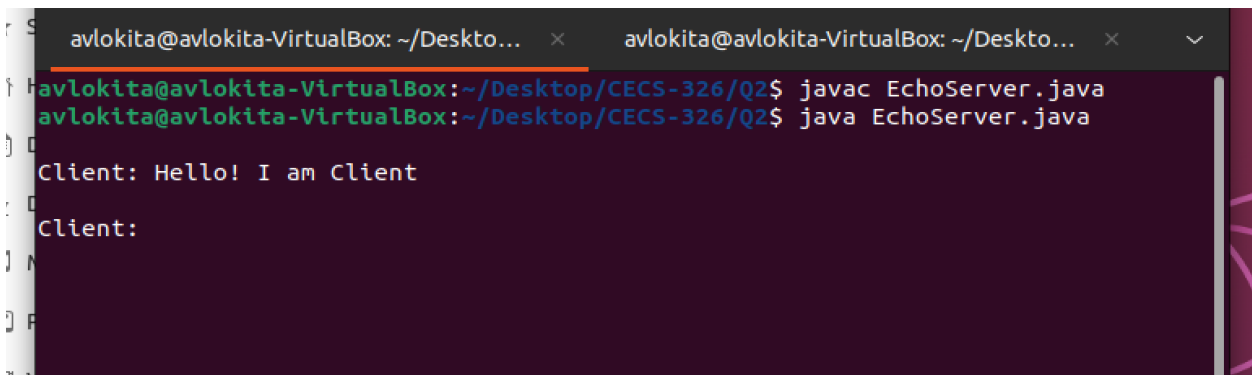
For this, run the EchoClient.java file again. Then when the message is prompted, press enter. You will see a message "Client didn't say anything."

It is because when Client doesn't enter anything, a message will be prompted to the Client and Server by the code that Client didn't say anything.

Here are the images from Client and Server's side:

A terminal window showing the execution of EchoClient.java. The prompt is 'avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2\$'. The command 'java EchoClient.java' is entered. The output is 'Enter message to send to Server:' followed by a blank line, and then 'Server: Client didn't say anything.'.

```
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ java EchoClient.java
Enter message to send to Server:
Server: Client didn't say anything.
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$
```

A terminal window showing the execution of EchoServer.java. The prompt is 'avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2\$'. The command 'javac EchoServer.java' is entered, followed by 'java EchoServer.java'. The output is 'Client: Hello! I am Client' followed by a blank line and then 'Client:'.

```
avlokita@avlokita-VirtualBox: ~/Desкто... x avlokita@avlokita-VirtualBox: ~/Desкто... x v
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ javac EchoServer.java
avlokita@avlokita-VirtualBox:~/Desktop/CECS-326/Q2$ java EchoServer.java
Client: Hello! I am Client
Client:
```



