A screenshot of a computer

Description automatically generated

Client Code:

package application;

import java.io.\*;

import java.net.\*;

import javafx.application.Application;

import javafx.geometry.Insets;

import javafx.geometry.Pos;

import javafx.scene.Scene;

import javafx.scene.control.Label;

import javafx.scene.control.ScrollPane;

import javafx.scene.control.TextArea;

import javafx.scene.control.TextField;

import javafx.scene.layout.BorderPane;

import javafx.stage.Stage;

public class Client extends Application {

// IO streams

DataOutputStream toServer = null;

DataInputStream fromServer = null;

@Override // Override the start method in the Application class

public void start(Stage primaryStage) {

// Panel p to hold the label and text field

BorderPane paneForTextField = new BorderPane();

paneForTextField.setPadding(new Insets(5, 5, 5, 5));

paneForTextField.setStyle("-fx-border-color: blue");

paneForTextField.setLeft(new Label("Enter a number: "));

TextField tf = new TextField();

tf.setAlignment(Pos.BOTTOM\_RIGHT);

paneForTextField.setCenter(tf);

BorderPane mainPane = new BorderPane();

//Text area to display contents

TextArea ta = new TextArea();

mainPane.setCenter(new ScrollPane(ta));

mainPane.setTop(paneForTextField);

// Create a scene and place it in the stage

Scene scene = new Scene(mainPane, 450, 200);

primaryStage.setTitle("Client"); // Set the stage title

primaryStage.setScene(scene); // Place the scene in the stage

primaryStage.show(); // Display the stage

tf.setOnAction(e -> {

try {

// Get the radius from the text field

double number = Double.parseDouble(tf.getText().trim());

// Send the radius to the server

toServer.writeDouble(number);

toServer.flush();

// Get area from the server

double area = fromServer.readDouble();

//Display to the text area

ta.appendText("Number is " + number +'\n');

ta.appendText(number + " is prime" + '\n');

}

catch (IOException ex) {

System.err.println(ex);

}

});

try {

// Create a socket to connect to the server

Socket socket = new Socket("localhost", 8000);

// Socket socket = new Socket("130.254.204.36", 8000);

// Socket socket = new Socket("drake.Armstrong.edu", 8000);

// Create an input stream to receive data from the server

fromServer = new DataInputStream(socket.getInputStream());

// Create an output stream to send data to the server

toServer = new DataOutputStream(socket.getOutputStream());

}

catch (IOException ex) {

ta.appendText(ex.toString() + '\n');

}

}

/\*\*

\* The main method is only needed for the IDE with limited

\* JavaFX support. Not needed for running from the command line.

\*/

public static void main(String[] args) {

launch(args);

}

}

Server Code:

**package** application;

**import** java.io.\*;

**import** java.net.\*;

**import** java.util.Date;

**import** javafx.application.Application;

**import** javafx.application.Platform;

**import** javafx.scene.Scene;

**import** javafx.scene.control.ScrollPane;

**import** javafx.scene.control.TextArea;

**import** javafx.stage.Stage;

**public** **class** Sever **extends** Application {

@Override // Override the start method in the Application class

**public** **void** start(Stage primaryStage) {

// Text area for displaying contents

TextArea ta = **new** TextArea();

// Create a scene and place it in the stage

Scene scene = **new** Scene(**new** ScrollPane(ta), 450, 200);

primaryStage.setTitle("Server"); // Set the stage title

primaryStage.setScene(scene); // Place the scene in the stage

primaryStage.show(); // Display the stage

**new** Thread( () -> {

**try** {

// Create a server socket

ServerSocket serverSocket = **new** ServerSocket(8000);

Platform.*runLater*(() ->

ta.appendText("Server started at " + **new** Date() + '\n'));

// Listen for a connection request

Socket socket = serverSocket.accept();

// Create data input and output streams

DataInputStream inputFromClient = **new** DataInputStream(

socket.getInputStream());

DataOutputStream outputToClient = **new** DataOutputStream(

socket.getOutputStream());

**while** (**true**) {

// Receive radius from the client

**double** number = inputFromClient.readDouble();

// Compute area

//double area = radius \* radius \* Math.PI;

**int** i, m=0,flag=0;

**int** n=3;

m=n/2;

**if**(n==0||n==1)

//System.out.println(n+" is prime number");

**for**(i=2;i<m;i++)

**if**(n%i==0)

flag=1;

**if**(flag==0)

//System.out.println(n+" is not prime number");

// Send area back to the client

outputToClient.writeDouble(n);

Platform.*runLater*(() -> {

ta.appendText("Enter number to check prime number: "

+ number + '\n');

//ta.appendText("Area is: " + area + '\n');

});

}

}

**catch**(IOException ex) {

ex.printStackTrace();

}

}).start();

}

/\*\*

\* The main method is only needed for the IDE with limited

\* JavaFX support. Not needed for running from the command line.

\*/

**public** **static** **void** main(String[] args) {

*launch*(args);

}

}

GIT hub repository:

https://github.com/Jrivmal/Module11.git