**CMSC214**

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**Project #11**

**Test Plan:**

I used the same input provided in the instructions and received the same values in client and server GUIs. In the instructions the amount of monthly payment and the total payment is the same but logically total payment should be more than the monthly payment and my results look correct based on the mathematical calculations.

Annual Interest Rate: 3.5

Number of Years: 3

Loan Amount: 5000

Monthly Payment: 146.5

Total Payment: 5274

**Screen Shots:Graphical user interface, text, application, chat or text message

Description automatically generated**

**Graphical user interface, text, application, chat or text message

Description automatically generated**

**Lessons Learned:**

I learned how to create a basic client-server network in java with this project. I initially tried to send the data as a loan object. I thought that writing double value twice would confuse the stream. That attempt did not work, then I tried to send the primitive data with DataInputStream/DataOutputStream and it worked. The order of the primitive values set between client and server are received in the same order.

Later, I realized that for sending data as an object I need to use a class that implements Serializable. Since the project worked and I did not have much time, I will leave writing another version of this project with ObjectInputStream/ObjectOutputStream to another time.

I want to learn more on how to connect with a server in a distant location for real web applications. I assume that the logic would be the same, since I would need the create the connected with the IP address or domain name of the server and create a socket. I think practicing sending objects will be useful since in real-world applications, sending primitive data is not always convenient, especially if the amount of the data is relatively big.

**Check List:**

|  |  |  |  |
| --- | --- | --- | --- |
| **#** |  | **Y/N** | **Comments** |
|  | **Source java files** | **Y** |  |
|  | **Document** | **Y** |  |
|  |  |  |  |
|  |  |  |  |
|  | **Program compiles** | **Y** |  |
|  | **Program runs** | **Y** |  |
|  | **Checklist is completed and included in the Documentation** |  |  |
|  | **Documentation file:** |  |  |
|  | **Comprehensive Test Plan** | **Y** |  |
|  | **Screenshots based on Test Plan** | **Y** |  |
|  | **~~UML Diagram~~** | **n/a** | **Not mentioned in the instructions** |
|  | **~~Algorithms/Pseudocode~~** | **n/a** | **Not mentioned in the instructions** |
|  | **Lessons Learned** | **Y** |  |