**Assignment 4**

**Due, Wednesday, November 2, 2022 for maximum 100%**

**Thursday, November 3, 2022 for maximum 90%**

**Friday, November 4, 2022 for maximum 80%**

**Saturday, November 5, 2022 for maximum 70%**

**MarieSim.jar**

1. GUI scaling issues for Windows
   1. Browse to **C:\Program Files (x86)\Java\jre1.8.0\_171\bin\** or **C:\Program Files\Java\jre1.8.0\_171\bin\**
   2. Single click **javaw.exe**, right-click and select **Properties**
   3. Click the **Compatibility** tab
   4. Under **Settings**, click the **Change high DPI settings** button
   5. Check the **Override high DPI scaling behavior** option
   6. **Scaling performed by** drop-down menu, select **System (Enhanced)**
   7. Click **OK** button
   8. Click **Apply** button
   9. Click **OK** button
   10. Start MARIE simulator by double-clicking the **MarieSim.jar** file

**Deliverables**

To complete this assignment, submit the **Assignment4.mas** file to Webcourses.

**References**

1. 10mariesimulator1.pdf
2. Ex4\_1.mas
3. Ex4\_2.mas
4. Ex4\_3.mas

**Assignment requirements**

1. Write the following code segment in MARIE assembly language
2. Reference MARIE examples to assist in writing the source code
3. Comments MUST be included for EVERY line. No comments will result in ONLY 50% of total grading rubric value.

**Sum := 0;**

**for X := 1 to 10 do**

**Sum := Sum + X;**

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| **Task (use as comments)** |
| / Load program in memory |
| / Load constant |
| / Initialize loop control variable X |
| / Loop label, Load X |
| / Compare X to 10 |
| / If AC < 0 (X is less than 10), continue loop |
| / If X is not less than 10, terminate loop |
| / Load Sum |
| / Add X to Sum |
| / Store result in Sum |
| / Load X |
| / Increment X |
| / Store X |
| / Jump back to top of loop |
| / Label Endloop to Jump to, Load Sum |
| / Print Sum |
| / Terminate program |
| / Storage for Sum |
| / Storage for X |
| / The constant value 1 |
| / The loop constant |
| / Stop Assembly |
|  |
| Source compiles with no errors |
| Source compiles with no warnings |
| Source runs with no errors |

**Test case**

Graphical user interface

Description automatically generated