Lab 05 - Memory I/O

Direction: Submit typed work in the Labs directory of your github repository and/or as an attachment on Google classroom under the Lab05 assessment. All submission should have their appropiate extensions.

Complete the following objectives

1. Copy the link

   https://forms.gle/t3z5hToEgHN9G2M78

   to your browser, and complete the form.

2. Write a complete program that defines the function `MemoryIO()` whose header is

   ```
   void MemoryIO(bool bus[],string memory[])
   ```

   Given that *bus* has a size of 9 such that each group of 3 consecutive elements from position 1 to 9 represents the control line, address line and data line respectively, and *memory* is an array of 3-bit binary strings that has a size of 8, the function either assigns the data line to the element of *memory* whose index is equal to the address line if the control line equals {`true, false, true`}, assigns the element of *memory* whose index is equal to the address line to the data line if the control line equals {`false, true, true`}, or nothing if the control line is equal to anything else. If an assignment is performed, the control line is assigned $\{false, false, false\}$. For instance, if

   $$\begin{aligned} bus &= \{\texttt{true, false, true, false, true, true, true, true, false}\} \\ memory &= \{\texttt{"000","001","010","011","100","101","110","111"}\} \end{aligned}$$

   (address line is equal to 3) then after the call to `MemoryIO`

   $$\begin{aligned} bus &= \{\texttt{false, false, false, false, true, true, true, true, false}\} \\ memory &= \{\texttt{"000","001","010","110","100","101","110","111"}\} \end{aligned}$$