1. What are the control signals set to for a no-op instruction?

<table>
<thead>
<tr>
<th>ALUSrc</th>
<th>ALUOp</th>
<th>RegDst</th>
<th>MemWrite</th>
<th>MemRead</th>
<th>MemToReg</th>
<th>RegWrite</th>
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2. How do we calculate signal ForwardA? Write pseudocode, e.g., if-statements. If you cannot do that, explain in sentences.

The control signals you might use as inputs to your function:

- ID/EX.RegisterRs
- EX/MEM.RegisterRd
- MEM/WB.RegisterRd
- ID/EX.RegisterRt
- EX/MEM.RegWrite
- MEM/WB.RegWrite

(Control signals are named with a prefix specifying the register they are coming from. For example, MEM/WB.RegWrite means the value of RegWrite control signal in stage WB)
3. Modify the data path to do forwarding in the case of store after load

\[ \text{e.g.,} \]
\[ \text{lw} \ $1, \ 0($2) \]
\[ \text{sw} \ $1, \ 0($4) \]

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4. (optional) Write down an expression for the control logic that calculates the control signal ForwardC.