

<p> : hiding the complexity of the design.</p> <p>1</p>	<p>The realises the data operations required by the FSM.</p> <p>2</p>
<p>The issues signals to control the operation of the datapath.</p> <p>3</p>	<p>A Reduced Instruction Set Computer (RISC) has three instruction types. What are they, and in brief what do they do?</p> <p>4</p>
<p>Shifter operations are applied to the register in operations.</p> <p>5</p>	<p>In Verilog, there are four options for a bit to be. 0, 1, X and Z. In brief, what does each one mean?</p> <p>6</p>
<p>What type of circuits do you associate the use of i) blocking statements, and ii) non-blocking statements in Verilog code?</p> <p>7</p>	<p>How can pipelining accelerate performance of a processing system?</p> <p>8</p>

The datapath realises the data operations required by the FSM.

Abstraction: hiding the complexity of the design.

2

1

Register to Register: Instructions that perform operations on values inside of registers.

Load/Store: The only operations that will be on memory.

Branch: Operations that change the value of the PC depending on a certain condition.

The control issues signals to control the operation of the datapath.

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3

1 and 0 are True and False respectively.

A value of X is unknown logic.

A value of Z would be high impedance.

Shifter operations are applied to the srcA register in type 1 operations.

6

5

Blocking statements use =, and are associated with combinatorial logic and execute one at a time.

Non-blocking statements use <=, and are associated with sequential systems that use a clock and actions are executed concurrently.

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