

CSA Project A

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(1) Draw the schematic for a single-stage processor and ll in your code to run the simulator.

Single Stage Processor

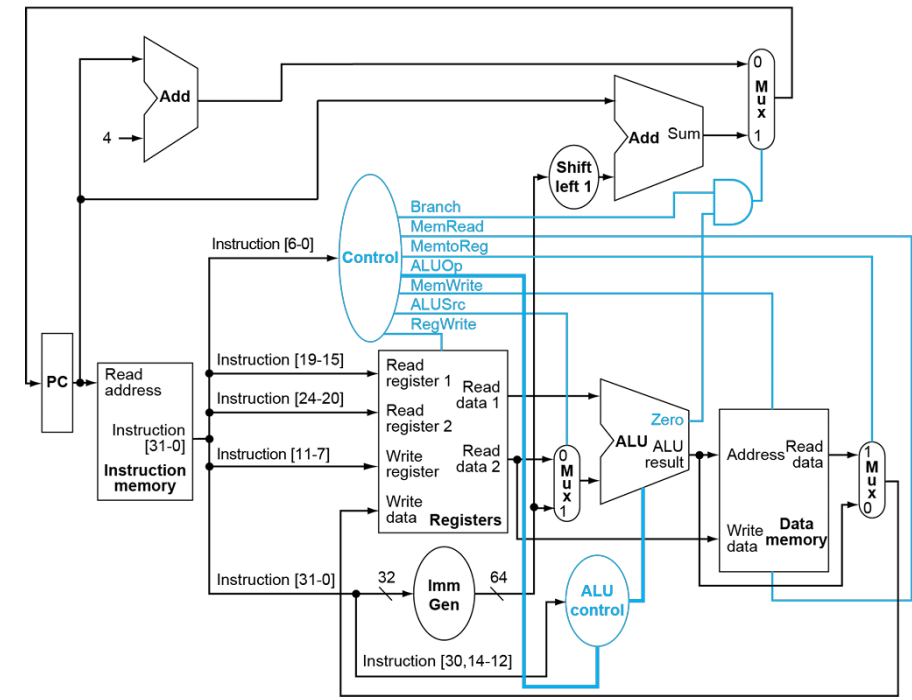
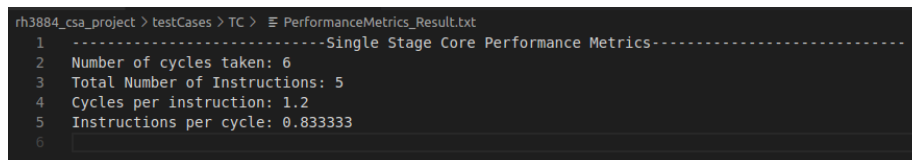


Figure 1: Image from the slide:- Lecture 5 slide 20

(3) Measure and report average CPI, Total execution cycles, and Instructions per cycle for both these cores by adding performance monitors to your code.

Sample Test Case output:

```
-----Single Stage Core Performance Metrics-----  
Number of cycles taken: 6  
Total Number of Instructions: 5  
Cycles per instruction: 1.2  
Instructions per cycle: 0.833333
```



The screenshot shows a terminal window with a dark background. The prompt is 'rh3884_csa_project > testCases > TC >'. To the right of the prompt is a file icon and the text 'PerformanceMetrics_Result.txt'. Below the prompt, there is a list of line numbers from 1 to 6. Line 1 contains the header '-----Single Stage Core Performance Metrics-----'. Line 2 contains 'Number of cycles taken: 6'. Line 3 contains 'Total Number of Instructions: 5'. Line 4 contains 'Cycles per instruction: 1.2'. Line 5 contains 'Instructions per cycle: 0.833333'. Line 6 is empty.

```
rh3884_csa_project > testCases > TC >  PerformanceMetrics_Result.txt  
1  -----Single Stage Core Performance Metrics-----  
2  Number of cycles taken: 6  
3  Total Number of Instructions: 5  
4  Cycles per instruction: 1.2  
5  Instructions per cycle: 0.833333  
6
```

Figure 2: Screenshot of the performance metrics from the code output