

CSCI 341: Computer Organization
WS 11: Single Cycle Data Path

1	What two types of functional units are present in a data path? What defines when a state can change or not in a data path?
2	What assembly instruction is represented by the following lines of register transfer language? 1. <code>R[rd]<-R[rs1]+R[rs2]</code> 2. <code>R[rd]<-MEM[R[rs1]+SignExtImm]</code>
3	Why does the register file need both a Write Register and Write Data input?
4	Draw the datapath for the instruction fetch stage.

5 What are the five stages in the pipeline, in order?

6 Draw a picture showing the datapath (with all functional units that are used) for
add t_2, t_1, t_0
Explain what is happening in each functional unit.