CDA3101 – F13 – Quiz #4 Wed 13 Nov 2013

Given:

```
L.1   add $s1, $s2, $s1
L.2   beq $s1, $s2, Exit
L.3   sub $s2, $s1, $s2
L.4   sw  $s2, 24($s1)
```

Q1 (5 pts): **Identify five data dependencies on line L.3 in the above MIPS code.** Example: **L.2 - RAW on $s1 from L.1**

Q2 (15 pts): **(a) Draw a pipeline schedule for the above MIPS code using EXE → EXE and EXE → MEM forwarding. Assume not-taken branch prediction, and a register file capable of half clock cycle (e.g., split-cycle) writes/reads.**

(b) Calculate the CPI of the pipeline schedule in a)

20 pts total – You have 20 minutes to complete