

Name: \_\_\_\_\_

# HW1: Von Neumann architecture, and multilayered computing (CS220-01)

1) Prior to the ENIAC, computers used 10 vacuum tubes per digit of number and multistate switches. How did the ENIAC change this?

2) Identify the three main components of a CPU. Half credit for only acronyms.

(a)

(b)

(c)

3) (a) What is the basic thing distinguishing the "Integrated Circuit", "VLSI" and "Embedded" generations of computing? (b) What does VLSI stand for?

(a)

(b)

4) Ada Lovelace envisioned a two layered machine vs the previously imagined single layer machine. Why was the addition of a second layer so profound?... why not just use one layer?

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5) In layman's terms, what is a bus?

6) The EDSAC was the first useful "stored program" computer. Programs had to be stored somewhere before; what was so special about how the EDSAC did it?

7) During which discussed generation did the personal computer appear?

8) Which computer in our discussion introduced what we now know as the system "bus"?

9) For the basic transistor discussed, what is the purpose of the basis pin?