CS-150 Worksheet 4
Architectures

This worksheet is about getting familiar with secondary storage and architectures. Complete each of the following tasks to see if you understand some of the materials covered in the lectures.

☐ Task 4.1 − Fetch-Decode-Execute
Describe the fetch-decode-execute cycle.

☐ Task 4.2 − von Neumann
Draw the Von Neumann architecture. Give a brief description of each component.

☐ Task 4.3 − Secondary Storage
Match the names of the following components of a magnetic disk drive to it's description:

Track	○	○	Set of concentric paths across multiple disks.
Block	○	○	A chunk of data on disk.
Cylinder	○	○	Minimal storage unit, portion of path around the disk.
Sector	○	○	Path on surface of disk, where data is stored.

☐ Task 4.4 − Pop Quiz
Answer the following:

1. True or False: Seek time = Access time + Latency

2. Of RAM and ROM, which is classed as volatile memory?

3. What is the purpose of the Program Counter?

4. Which of the following is **not** one of the four main approaches to parallelism in computing:

    (a) Instruction-level

    (b) User-level

    (c) Task-level

    (d) Bit-level

    (e) Data-level

☐ Challenge Task

Annotate your drawing of the Von Neumann architecture to show how messages move through the system during the fetch-decode-execute cycle.