Problem 1

Log in and take screenshots of `whoami` that prove that you can get on machines: `hb.ucsc.edu` and `grape.soe.ucsc.edu`.

(a) The `whoami` output on `hummingbird`. (b) The `whoami` output on `grape`.

Figure 1: Solution to HW 1(i).

Problem 2

Top 500: Pick a computer and describe it. Specify at least

- Name
- Location
- No. of nodes, No. of processors per node $\implies$ Total no. of processors
- Clock speed of chips
- Flops/processor and Total flops
- Memory per processor and Total memory
- Architecture type (SIMD,MIMD,...)
- Interconnect type
- Use?
- Anything special?

Solution.

- Name: LLL1 (Rank #217)
- Location: China
- No. of nodes, No. of processors per node $\implies$ Total no. of processors: No. of nodes – 1,600, No. of processors per node – 2, Total no. of processors – 3,200

- Clock speed of chips: 2.5 GHz
- Flops/processor and Total flops: Flops/processor – 1.92 TFlops (Theoretically), Total flops – 6.14 PFlops (Theoretically)
- Memory per processor and Total memory: Memory per processor – 1 TB, Total memory – 3,200 TB
- Architecture type (SIMD,MIMD,...): Not stated
- Interconnect type: Not stated
- Use? Not stated
- Anything special? It was really hard to find information on this supercomputer! If I searched up the computer by name, only 3 links would show :/.

■

Problem 3

Tell me about something in your life experience that involves concurrency/parallelism!

Solution. This is a somewhat new morning routine, but: I wake up, start my coffee maker, and toast bread for a PB & J (or PB & Honey) sandwich. Then, while that is brewing/toasting, I draft up what I want to do today, along with some daily goals, in a notebook. Once both tasks are complete I make my sandwich and eat while I check emails/Instagram/discord. Finally, I shower/get ready for the day then drive while listening to Spanish podcasts to practice my Spanish while I drive. ■