1. More on memory
    a. Characteristics of memory systems
        i. Physical type
            1. Need two well-defined states in the medium to differentiate 0 and 1
            2. Semiconductor – flip-flops, capacitors, so on
            3. Magnetic surface – stored using magnetism (like hard drives)
            4. Optical – CDs, Blu-ray, and the like
        ii. Volatility
            1. Non-volatile – retains information when power is off (hard drives)
            2. Volatile – loses information when power is cut (registers, flip flops, RAM)
            3. Location – internal (RAM) or external (USB hard drive)
        iii. Capacity

        iv. Units of transfer

        v. Access methods
            1. Sequential

            2. Direct access

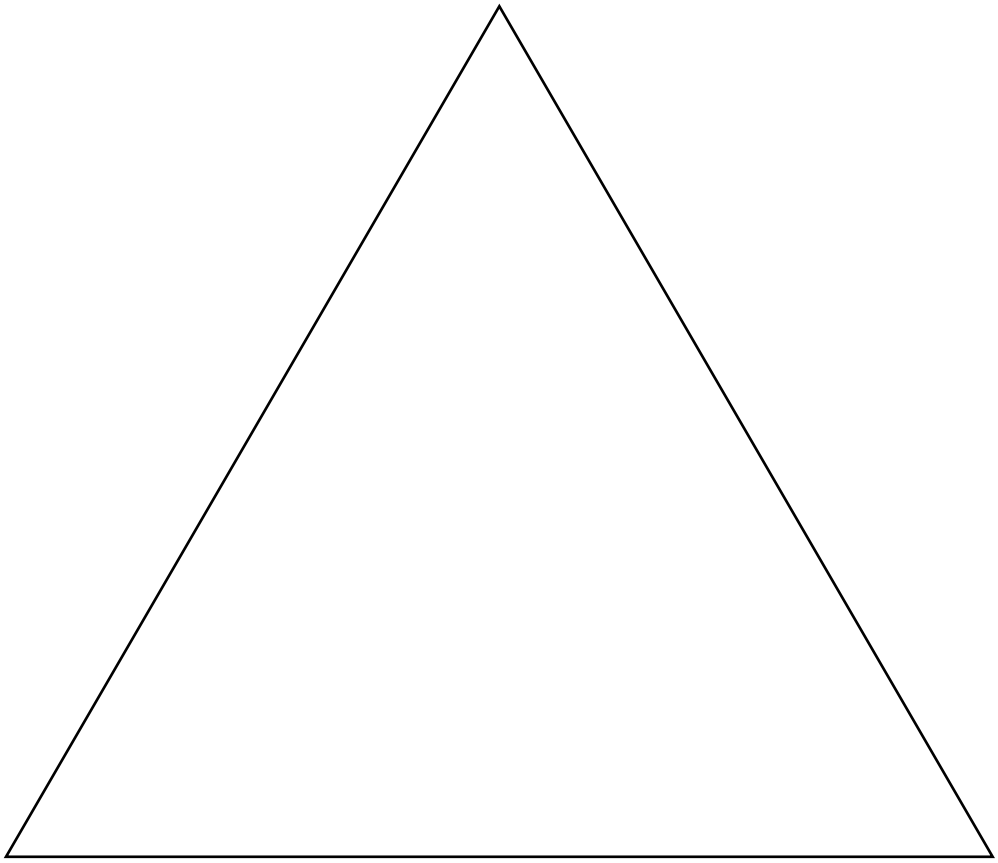
            3. Random access

            4. Associative

        vi. Performance

        vii. Erasability

2. Memory hierarchy



a. Forms a pyramid

b. Key to success of the hierarchy

c. Locality types
    i. Temporal locality

    ii. Spatial locality

d. Locality is the key behind why caches work so well