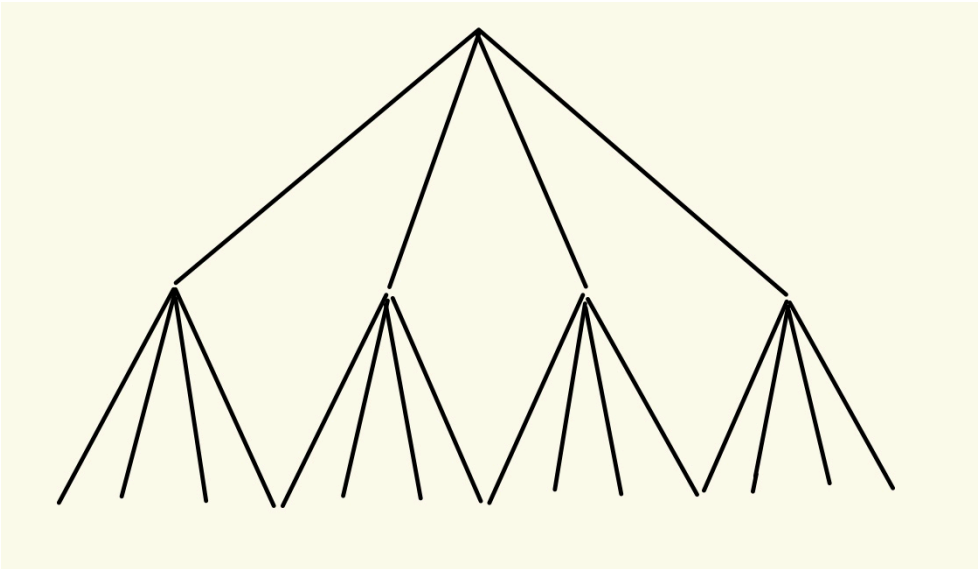
1. Switching CPU core to another process required performing a state save of the current process and state restore of different process. When a context switch occurs, the system saves the context of the old process into the PCB and loads the saved context for the new process.

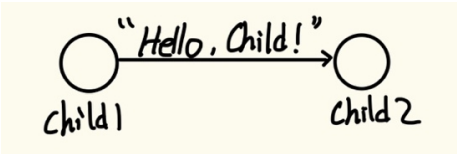
2. Answer: 16



3. This method would never return if execlp() is called. If an error occurs in the call to execko(), the line printf(“ LINE J”) would be performed.

4. A = 0
   B = 2606
   C = 2606
   D = 2603

5. This program is going to echo a message from one child process to another.
   Output: Hello, Child!



6. CPU efficiency = time slice / (time slice + context-switch time)
   OLD: 20 / (20+1) = 0.9524
   NEW: 15 / (15+1) = 0.9375
   OLD efficiency > NEW efficiency; therefore, efficiency decreases.

7. (a) from running to waiting - I/O or event wait
   (b) from waiting to ready – input/output completion
   (c) from running to ready – interruption (system call)