

Given a 32-bit MIPS Datapath where the page size is set at 4096, the number of physical pages allowed in memory is 2^{18} , show how virtual mapping is performed. How big is the physical page number, and draw the representation of the Virtual-to-Physical address translation.

Given a 64-bit x86_64 Architecture where the page size is set at 4096, the number of physical address size in memory is 246, and the virtual memory address size is 248, derive the number of pages in the disk and draw the representation of the Virtual-to-Physical address translation.