Question on Inverted Paging | Operating System – M05 P15

This is a multipart blog article series, and in this series I am going to explain you the concepts of operating system. This article series is divided into multiple modules and this is the fifth module which consists of 26 articles.

In this article we will see a question on inverted paging and try to understand the concept of inverted paging.

**Question:** Consider a virtual address space of 32 bits and page size of 4 KB, system is having a RAM of 128 KB. Than what will be the ratio of page table and inverted page table size, if each entry in both is of size 4 B?

**Answer:** Virtual address space = 32 bits

Page size = 4 KB = 22 x 210 = 212

Therefore, Number of page = 220

Number of page bits = 20

Size of page table = 220 x 4 B

In inverted paging table “number of entries = number frames in main memory”

Physical address = 128 KB = 27 x 210 = 217

“Frame offset = Page offset”

Therefore, number of frames in main memory = 25

Size of inverted page table = 25 x 4 B

Therefore, according to the question

220 x 4 B/ 25 x 4 B = 215:1

So this was a simple question on inverted paging. Hope you liked it and learned something new from it.

If you have any doubt, questions, quires related to this article or just want to share something with me, than please feel free to contact me.