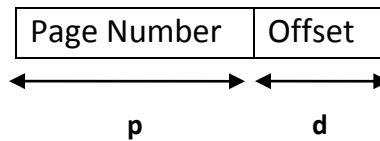


Formulae to solve numerical related to paging

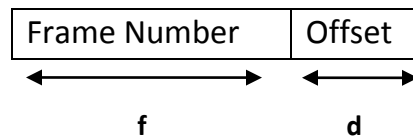
1. What will be the format of Logical Address (L.A)?

Ans.



2. What will be the format of Physical Address (P.A)?

Ans.



3. What will be the length of Logical Address (L.A)?

Ans. $L.A. = |p| + |d|$

4. What will be the length of Physical Address (P.A)?

Ans. $P.A. = |f| + |d|$

5. Size of process

Size of process = logical address space = $2^{(\text{length of L.A})}$

Length of L.A. = $\log_2 (\text{Process Size})$

6. Size of Physical Memory

Size of Physical Memory = Physical Address Space = $2^{(\text{Length of P.A})}$

Length of P.A. = $\log_2 (\text{Memory Size})$

7. Maximum number of Pages in a process

Max number of pages in a process = $2^{(\text{number of bits for page \#})} = 2^{|P|}$

Width of page# field = $|p| = \log_2 (\text{Maximum no of pages in a process})$

8. Page Size

Page size = $2^{(\text{Number of bits for offset})} = 2^{|d|}$

Width of offset field = $|d| = \log_2 (\text{page Size})$

9. Number of Frames

Number of Frames = $2^{(\text{number of bits for frame \#})} = 2^{|f|}$

Width of frame# field = $|f| = \log_2 (\text{number of frames})$

10. Page Size

Page size= frame size

11. Size of Process

Size of process = Number of pages * page size

12. Size of Physical Memory

Size of physical memory = Number of frames * frame size

13. Page Table Entry Size (PTES) Size:

PTES size = $|f| + 2$ (in bits)

14. Page Table Base Register (PTBR)

It contains the starting address of page table.

15. Page Table Limit Register (PTLR) Size:

It contains size of page table.

16. Number of Entries in a page table

Number of pages in a process (usually)

17. Number of Entries in an inverted page table

Number of frames in the memory.

18. Size of Page Table

Size of page table = PTES* number of entries (Bits)