P. 7.5 Base & Limit Registers.

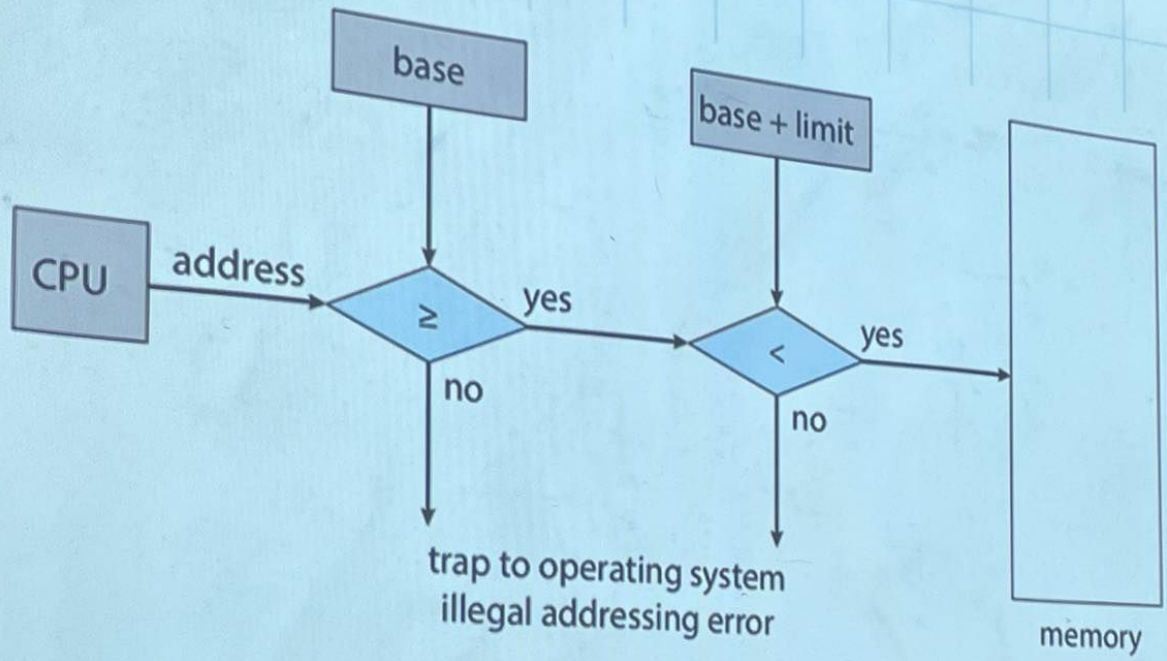
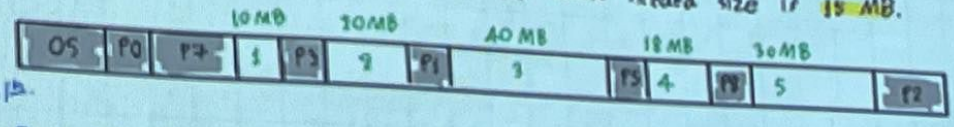


Figure 9.2 Hardware address protection with base and limit registers.

P. 7. 18 Memory Allocation

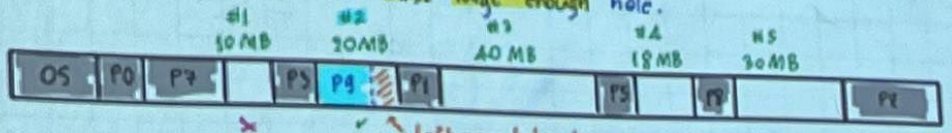
Ex. Various sized holes are as follows.

Show the 3 allocation methods for P9 whose needed size is 15 MB.



Sol:

First-fit allocation: Find the first large enough hole.



15MB ≯ 10MB

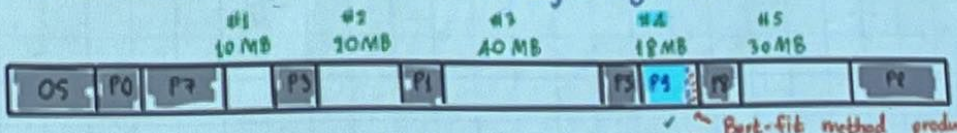
15 MB ≤ 20MB

Leftover hole has size of 20 MB - 15 MB = 5 MB.

Searching order.

Ans (1)

Best-fit allocation: Find the smallest but large enough hole.



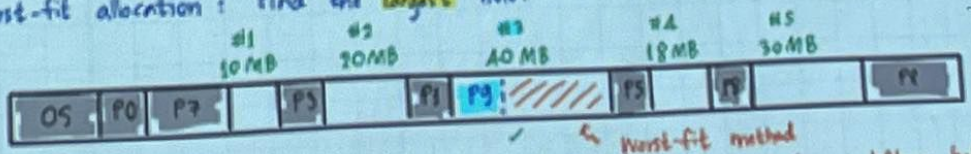
Search all holes.

15 MB ≤ 18 MB and closest.

Best-fit method produces the smallest leftover hole. (18 MB - 15 MB = 3 MB.)

Ans (2)

Worst-fit allocation: Find the largest hole.



Search all holes.

15 MB ≤ 40 MB and largest.

Worst-fit method produces the largest leftover hole. (40 MB - 15 MB = 25 MB.)

Ans (3)