

Assignment Voitual Memory

9.21 Consider the following page reference string: 7,2,3,1,2,5,3,4,6,7,7,1,0,5,4,6,2,3,0,1.

Assuming demand paging with three fearnes, how many page faults would occur for the following replacement algorithms?

- (i) LRU replacement
- in FIFO replacement
- (iii) Optimal sueplacement

Ans (1) LRU Replacement

72312534677105462301

"Number of page faults = 18

ii) FIFO vieblacement

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	. 1	1				
0	Num	beer of	booo	faults		17
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	And the second	U	' ()	1)		

Optimal Replacement

72312534677105462301

3 3 3 3 9 6 7 年 日 0 0 0 0 0 0 0

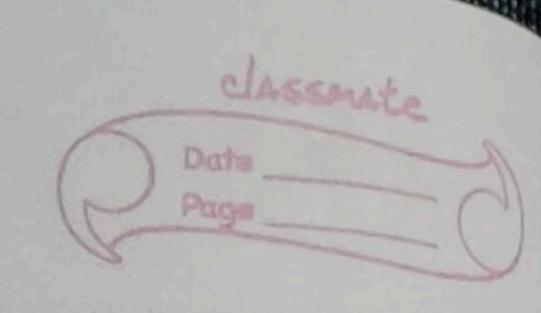
°. Number of page faults = 13.

9.3 Consider the page table shown in Fig 9.30 for a system with 12-bit virtual and physical addresses and with 256-byte pages. The list of free page frames is D, E, F (that is, D is at the head of the list.)

E is second, and F is last).

Page	Page Frame
	The second desired
1	2
2	C
3	A
	4 - Harrison Harrison
	3
6	
+	B
8	0
9	

Fig 9.30 - Page Lable



Convert the following virtual addresses to their equivalent physical addresses un hexadecimel. All numbers are given in henadecimal. (A dash for a page frame indicates that the page is not in (i) 9EF (ii) 111 (ii) 700

Civ) OFF

Size of virtual / physical address space = 213

= 4096 bytes

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l'age size = 28 = 256 bytes Theorefore, 12-8 z 4 high-order bits of logical address represent page number and 8 low-order bits represent page offset.

- (i) 9EF -> coveresponds to page 9 Physical address = OEF
- sollier and butter to the little title of the (ii) 111 - concresponds to page 1 Physical address = 211
- (iii) 700 -> corresponds to page 7 Read page 7 to face page frame D Physical address = Doo
- (iv) OFF -> concesponds to page o Read page 6 to force page prame E Physical address = EFF