

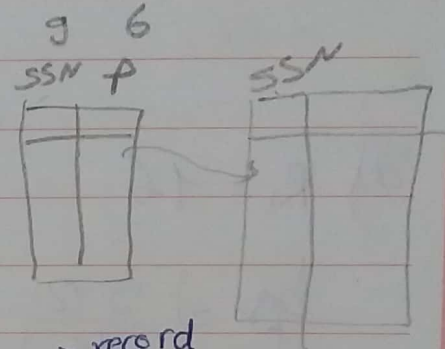
## Sec 2 DB

Kr. 14)  $gR = 115$

b)  $b_{dr} = \left\lceil \frac{B}{R} \right\rceil = \left\lceil \frac{512}{115} \right\rceil = 4$  R/Block

c)  $R_i = g + p = 15$   
 $\text{SSN} \quad P_B$

$b_{fr_i} = \left\lceil \frac{512}{15} \right\rceil = 34$

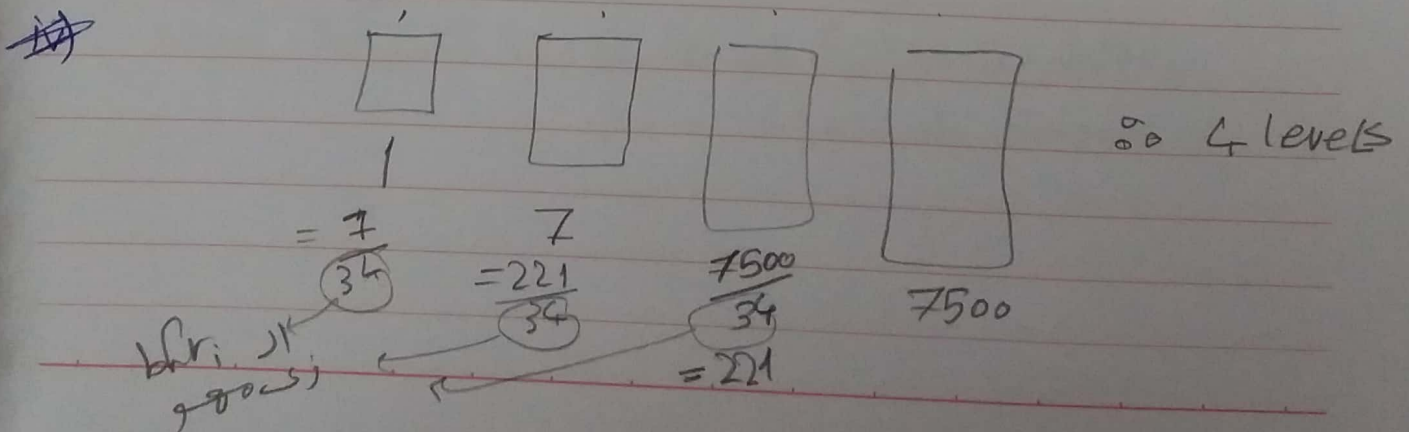


ii) # of first level entries =  $\frac{30000 \rightarrow \text{record}}{b_{fr_i} \leftarrow 34} = 7500$

# " " " Blocks =  $\frac{7500}{b_{fr_i} \leftarrow 34} = 221$

iii)  $\left\lceil \log_{34} 7500 \right\rceil = 4$

level 4 records  
 level 3 record  
 levels



iv) 1 + 7 + 221 Blocks

record in one block

7 records in one block

$\frac{221}{34}$

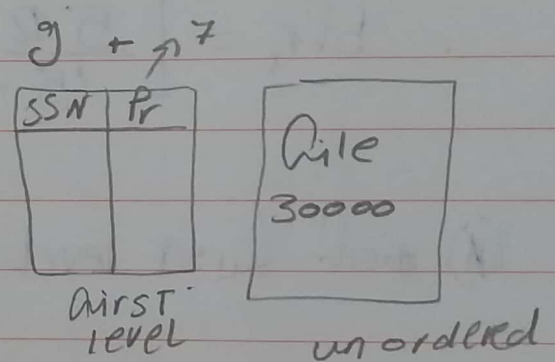
$\frac{7500}{34}$

v) # of multi levels  $+1 = 4 + 1 = 5$

d)  $R_i = 16$

$$b_{pr} = \left[ \frac{5 + 2}{16} \right]$$

# of levels =  $\log_{34} B_R$



30000 record

$$B_p = \frac{30000}{b_{pr}} \rightarrow \left\lceil \frac{512}{16} \right\rceil$$

30000 record

$$B_p = \frac{30000}{b_{pr}}$$

512  
16

Block pointers  
Block size

$$g + G = 15$$

السؤال

\* Department + Pr

$$g + 7 = 16$$

c)

$$i) bfr_v = \left\lfloor \frac{512}{16} \right\rfloor$$

$$ii) \# \text{ of levels} = \log_{34} BR =$$

i)

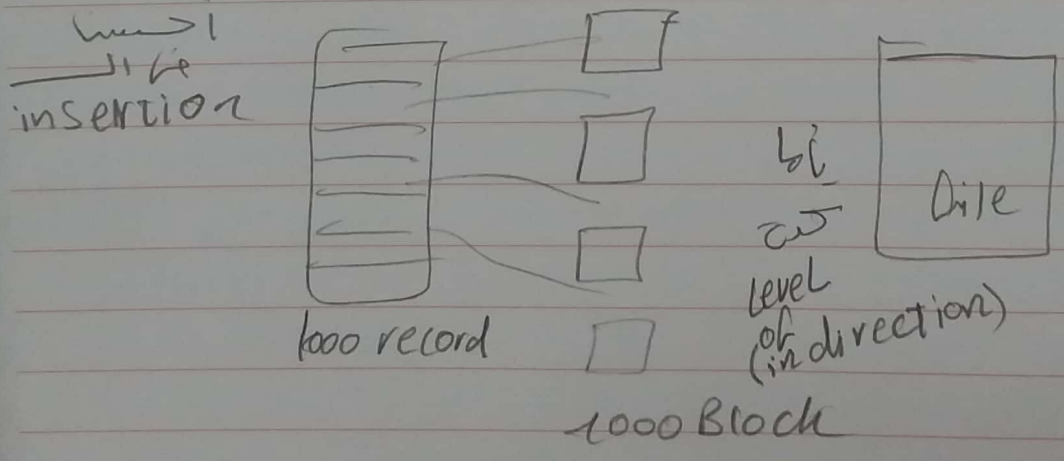
First level entries

$$Bf = \frac{30000}{16}$$

$g + 7$

⊗) 1000 g 30000 unique record departments

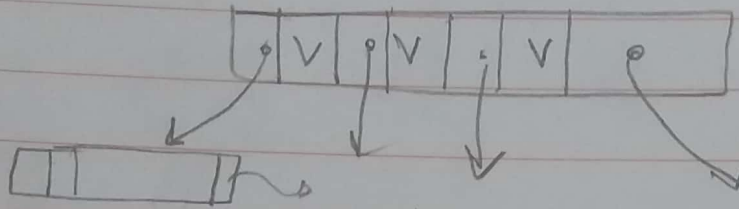
unique block as 1000 Block  
 unique value as 30 records



بالمثل طريقة التسمية السابقة الى كل كتل دي level  
 level as 30000



g)



$P \rightarrow \text{pointer}$   
 $P-1 \rightarrow \text{key}$

$$\Rightarrow (SSN + P_R) + \text{Real} + (P_B) \leq 512$$

$$\Rightarrow P \times (6) + (P-1) \times (9) \leq 512$$

$\swarrow$  Size pointer       $\searrow$  Size key

Block size  
 $\downarrow$   
 node  
 Block