Formule 3° Esercizio Basi di Dati

- Hash

$$\underset{Dir}{Record} \times Blocco = \left\lfloor \frac{Block\ Size}{P_{size}} \right\rfloor = Puntatori \times Blocco$$

$$N°Blocchi \times Bucket\ Dir = \frac{\lceil N°Bucket \rceil}{Record \times Blocco}$$

$$Blocchi \times Bucket = \frac{\lceil Record \times Bucket \rceil}{Record \times Blocco}$$

$$\underset{Buk}{Record} \times Blocco = \left\lfloor \frac{Block\ size - Pointer\ size}{Record\ size} \right\rfloor$$

$$Record \times Bucket = \frac{\lceil N°Record \rceil}{N°Bucket}$$

$$Avg\ Time = \frac{\lceil Blocchi \times Bucket \rceil}{2}$$

- ISAM

$$Record \times Blocco\ Index = \left\lfloor \frac{Block\ size}{Pointer\ size + key\ size} \right\rfloor$$

$$Record \times Blocco = \frac{\lceil Block\ size \rceil}{Record\ size}$$

$$Total\ Blck\ Main = \frac{\lceil N°Record \rceil}{Record \times Blocco}$$

$$\text{Total Block Index} = \left\lceil \frac{\text{Total Block Main}}{\text{Record} \times \text{Blocco Index}} \right\rceil$$

$$T_{Accesso} = \log_2(\text{Total Block Index}) + 1$$

B-Tree

SE VOGLIO PIENO AL MIN. $\left\lceil \frac{\text{Blk size}/2}{\text{K size}} \right\rceil$

$$\text{Rec per Blocco} = \frac{\text{Blk Size}}{\lfloor \text{Rsize} \rfloor}$$

$$\text{ToT Block file Primario (Tot Blk M)} = \frac{\lceil N^{\circ}\text{Record} \rceil}{\text{Rec per Blk}}$$

$$N^{\circ}\text{Keys} \leq \frac{\text{Blk Size} - \text{PSize}}{\lfloor \text{PSize} + \text{Ksize} \rfloor} + 1 = \text{SE VOGLIO RIEMPIRE L'ALBERO AL MAX} \Rightarrow \text{MIN } n^{\circ} \text{ ACCESSI}$$

$$d = \left\lceil \frac{(\text{Blk Size}/2) - \text{PSize}}{\text{PSize} + \text{Ksize}} \right\rceil + 1 = \text{SE VOGLIO RIEMPIRE L'ALBERO AL MIN} \Rightarrow \text{MAX } n^{\circ} \text{ ACCESSI}$$

1) Liv 0 — 34000
2) Liv 1 — $\left\lceil \frac{34000}{23} \right\rceil = 1479$
3) Liv 2 — $\left\lceil \frac{1479}{23} \right\rceil = 65$
4) Liv 3 — $\left\lceil \frac{65}{23} \right\rceil = 3$

5) $l_{iv} \in \left\lceil \frac{3}{23} \right\rceil = 1 \rightarrow$ MI FERMO

TOT BLOCKI = 1+75 +65 + 3 + 1 =

Il costo è il n° di livelli = 5