

Table 12.1 Grades of Performance for Five Basic File Organizations [WIED87]

File Method	Space		Update		Retrieval		
	Attributes		Record Size		Single record	Subset	Exhaustive
	Variable	Fixed	Equal	Greater			
Pile	A	B	A	E	E	D	B
Sequential	F	A	D	F	F	D	A
Indexed sequential	F	B	B	D	B	D	B
Indexed	B	C	C	C	A	B	D
Hashed	F	B	B	F	B	F	E

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|--|-----------------|
| A = Excellent, well suited to this purpose | $O(r)$ |
| B = Good | $O(o \times r)$ |
| C = Adequate | $O(r \log n)$ |
| D = Requires some extra effort | $O(n)$ |
| E = Possible with extreme effort | $O(r \times n)$ |
| F = Not reasonable for this purpose | $O(n^{>1})$ |

where

- r = size of the result
- o = number of records that overflow
- n = number of records in file

Table 12.3 File Allocation Methods

	Contiguous	Chained	Indexed	
Pre-Allocation?	Necessary	Possible	Possible	
Fixed or variable size portions?	Variable	Fixed blocks	Fixed blocks	Variable
Portion size	Large	Small	Small	Medium
Allocation frequency	Once	Low to high	High	Low
Time to allocate	Medium	Long	Short	Medium
File allocation table size	One entry	One entry	Large	Medium