

Advanced Data Structure Unit – 6: File Organization

1 Files are logically partitioned into storage units of fixed-length known as

ASectors

BTracks

CSegments

DBlocks

Ans **Blocks**

2 An organized logical sequence of records is called

AFile

BOrganization

CScrubbing

DSequencing

Ans **File**

3 The linked list created from the deleted records of file is referred to as

AOccupied list

BFree list

CFixed list

DScrub list

Ans **Free list**

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4

Allocation of certain bytes are made at the beginning of the file, known as
AFile initiator
BFile header
CFile initializer
DHeader

Ans **File header**

5

The fields which are used to retrieve the related records from other files are called
A secondary fields
B primary fields
C key fields
D connecting fields

Ans **connecting fields**

6

The technique of writing data on two physical disks and treating both disks as one logical disk unit is classified as
A Shadowing
B Clustering
C Distributing
D non shadowing

Ans **Shadowing**

7

The file organization that have no ordering of records, is called
AHeap file organization
BClustered file organization
CHashing file organization
DSequential file organization

Ans **Heap file organization**

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- 8 The file organization in which records are stored in a logical order is known to be
- A Clustered file organization
 - B Hashing file organization
 - C Sequential file organization
 - D Heap file organization

Ans **Sequential file organization**

- 9 In hashing file organization, a hash function is calculated on some
- A Attribute of each record
 - B Attribute of Method
 - C Attribute of relation
 - D Attribute of sequence

Ans **Attribute of each record**

- 10 In the sequential file organization, the records are stored according to the value of
- A Record's entry
 - B Record's elimination
 - C Search key
 - D Function

Ans **Search key**

- 11 The organization in which records are placed anywhere in the file, where there is free space for the record is referred to as
- A Hashing file organization
 - B Sequential file organization
 - C Heap file organization
 - D Clustered file organization

Ans **Heap file organization**

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12

The reserved area that holds one block in main storage is classified as
A disk address
B buffer address
C hardware address
D software address

Ans **buffer address**

13 The time period required to transfer blocks in consecutive order is classified as

- A reel time
- B seek time
- C rotational delay
- D bulk transfer rate

Ans **bulk transfer rate**

14

The range of capacity for the number of tracks is
A 80 to 120 Kbytes
B 10 to 150 Kbytes
C 20 to 80 Kbytes
D 50 to 100 Kbytes

Ans **10 to 150 Kbytes**

15 Considering the disks, the command with which the block from disk is copied from the specific buffer is classified as

- A paste command
- B cut command
- C write command
- D read command

Ans **read command**

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- 16 The time which is needed for consecutive blocks transferring is classified as
- A rotational delay
 - B bulk transfer rate
 - C reel time
 - D seek time

Ans **bulk transfer rate**

- 17 A record is the collection of fields that relate to a single entity
- A True
 - B False

Ans **True**

- 18 A file is a collection of related records.
- A True
 - B False

Ans **True**

- 19 Text file does not contain
- A Alphabets
 - B Digits
 - C Special symbols
 - D ASCII codes
 - E Graphical data

Ans **Graphical data**

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20	Binary files contains binary data which can be interpreted and understood by computers
A	True
B	False
Ans	True

21 ----- is a mechanism which helps in organizing the data or records in a file.

- A File organization
- B Data Structure
- C Operating System
- D Memory Organization

Ans **File Organization**

22 In sequential file organization records are arranged-----.

- A Sequentially
- B Randomly
- C Relatively
- D Parallel

Ans **Sequentially**

23 In sequential file organization record can be inserted only at -----.

- A Random position
- B Beginning
- C End of the file
- D None of the above.

Ans **End of the file**

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24 Searching operation in sequential file organization is -----.

A Efficient

B Time Consuming

C Time saving

D None of the above.

Ans **Time Consuming**

25 In sequential file organization reading of records in order of the ordering key is extremely efficient

A True

B False

Ans **True**

26 Sequential file organization will be expensive for

A Large databases

B Small databases

C Both A and B

D None of the above.

Ans **Large databases**

27 ofstream class signifies

A The output file stream

B Creation of files for writing information

C Both A and B

D None of the above.

Ans **Both A and B**

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- 28 ifstream class signifies
A The input file stream
B Reading information from files
C Both A and B
D None of the above.

Ans **Both A and B**

- 29 fstream class signifies
A Writing information to files
B Reading information from files
C Both A and B
D None of the above.

Ans **Both A and B**

- 30 A file must be ----- before you can read from it or write it to.
A Open
B Close
C Read
D Write

Ans **Open**

- 31 Either ----- or ----- object may be used to open a file for writing
A ofstream, fstream
B ifstream, ofstream
C ofstream, ifstream
D None of the above

Ans **ofstream, fstream**

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32 Simplest kind of file organization

A Sequential file organization

B Random file organization

C Relative file organization

D Linked file organization

Ans **Sequential file organization**

33 The order of records in sequential file organization is

A random

B relative

C Controlled by user

D Fixed

Ans **Fixed**

34 Random searching is not possible in

A Sequential file organization

B Random file organization

C Relative file organization

D Linked file organization

Ans **Sequential file organization**

35 ----- had high data redundancy.

A Sequential file organization

B Random file organization

C Relative file organization

D Linked file organization

Ans **Sequential file organization**

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- 36 Records are stored one after the other as they are inserted into the tables. This method is called
- A Sequential method
 - B random method
 - C relative method
 - D Pile file method

Ans **Pile file method**

- 37 Records are sorted each time they are inserted into the system. This method is called as
- A Sequential method
 - B random method
 - C Sorted file method
 - D Pile file method

Ans **Sorted file method**

- 38 In ----- file organization, a fixed format is used for records where all records are of the same length, consisting of the same number of fixed length fields in a particular order.
- A Pile
 - B Sequential
 - C indexed sequential
 - D Indexed

Ans **Sequential**

- 39 ----- are used mostly in applications where data are rarely processed exhaustively.
- A Pile
 - B sequential file
 - C indexed sequential file
 - D indexed file

Ans **indexed file**

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- 40 Airline reservation systems and inventory control system are the examples of system.
- A Pile
 - B Sequential file
 - C Indexed sequential file
 - D Indexed file.

Ans **Indexed file**

- 41 An alternative is to organize the sequential file physically is a
- A List
 - B Linked List
 - C Queue
 - D Stack

Ans **Linked List**

- 42 Directories, pricing tables, schedules and name lists are the examples of
- A Indexed files
 - B Direct files
 - C Sequential files
 - D Indexed Sequential files

Ans **Direct files**

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- 43 ----- are typically used in batch applications and are generally optimum for such applications if they involve the processing of all the records.
- A Indexed files
 - B Direct files
 - C Sequential files
 - D Indexed Sequential files

Ans **Sequential files**

- 44 The ----- greatly reduced the time required to access a single record, without sacrificing the sequential nature of the file.
- A Indexed files
 - B Direct files
 - C Sequential files
 - D Indexed Sequential files

Ans **Indexed Sequential files**

- 45 ----- specifies percentage of actual records which proceed in single run.
- A File activity
 - B File merging
 - C File Volatility
 - D File deletion

Ans **File activity**

- 46 ----- addresses the properties of records changes. It helps to increase the efficiency of disk design.
- A File activity
 - B File merging
 - C File Volatility
 - D File deletion

Ans **File Volatility**

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- 47 Storing and sorting in continuous block within files on tape or disk is called as -----.
- A Sequential access file organization
 - B Random file organization
 - C Relative file organization
 - D Linked file organization

Ans **Sequential access file organization**

- 48 Hard disk, zip disk , floppy disks are common examples of-----.
- A Magnetic disk
 - B Magnetic tape
 - C Magnetic drums
 - D None of the above

Ans **Magnetic disk**

- 49 Magnetic disk provide
- A Cost efficiency
 - B Fast access
 - C High storage capacity
 - D All of the above

Ans **All of the above**

- 50 Magnetic disk are form of
- A Primary storage
 - B Secondary storage
 - C Main Memory
 - D None of the above

Ans **Secondary storage**

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51 Magnetic disk developed in
A 1957 at IBM
B 1956 at IBM
C 1958 at IBM
D 1959 at IBM

Ans **1956 at IBM**

52 In magnetic disk data is stored in the form of
A Tracks
B Spots
C Sectors
D All of the above

Ans **All of the above**

53 Magnetic tapes developed in
A 1928 in Germany
B 1928 in China
C 1929 in Germany
D 1929 in China

Ans **1928 in Germany**

54 Magnetic tape is
A Medium for magnetic recording
B Made of thin , magnetizable coating
C A long narrow strip of plastic film
D All of the above

Ans **All of the above**

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- 55 Magnetic tape is
- A Medium for magnetic recording
 - B Made of thin , magnetizable coating
 - C A long narrow strip of plastic film
 - D All of the above

Ans **All of the above**

- 56 Magnetic drums developed in
- A Germany in 1932
 - B India in 1935
 - C China in 1936
 - D Austria in 1932

Ans **Austria in 1932**

- 57 Magnetic drum is
- A Also referred as drum
 - B It is the metal cylinder with iron oxide material
 - C Both A & B
 - D None of the above

Ans **Both A & B**

- 58 In early computers magnetic drums used as
- A Primary memory
 - B Secondary memory
 - C Both A & B
 - D None of the above

Ans **Primary memory**

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59	Magnetic drums were once used as a primary storage device but have since been implemented as auxiliary storage devices.
A	True
B	False
Ans	True

60 Which material is used for magnetic coating of magnetic drums?

A Iron oxide material

B Samarium Cobalt

C Aluminium

D None of the above

Ans **Iron oxide material**

61 Direct access file organization is also known as

A Random access file organization

B Relative access file organization

C Sequential access file organization

D Both A & B

Ans **Both A & B**

62 In direct access file organization, all records are stored in direct access storage device such as hard disk.

A True

B False

Ans **True**

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63	In direct access file organization, all records are randomly placed or addressed throughout the file
A	True
B	False
Ans	True

64 Direct access file organization is efficient for
A Small database
B Large database
C Both A & B
D None of the above

Ans **Large database**

65 Direct access file organization is useful for immediate access to large amount of data.
A True
B False

Ans **True**

66 In direct access file organization, records do not need to be in sequence.
A True
B False

Ans **True**

67 In direct access file organization, records directly updated and rewritten back to the same location
A True
B False

Ans **True**

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68	In direct access file organization, records need to be in sequence for updation.
A	True
B	False
Ans	False

69 In direct access file organization, updating a record is time consuming compared to sequential access file organization.

A True

B False

Ans **False**

70 In direct access file organization, updating a record is time consuming compared to sequential access file organization.

A True

B False

Ans **False**

71 A tape is made up of a plastic material coated with a ferrite substance that is easily magnetized.

A True

B False

Ans **True**

72 A limitation of magnetic tape devices is that records must be processed in the order in which they reside on the tape

A True

B False

Ans **True**

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73	In direct access file organization though we search records using key, we still need to know the address of the record to retrieve it directly
A	True
B	False
Ans	True

74 In direct access file organization though we search records using key, we still need to know the address of the record to retrieve it directly

A True

B False

Ans **True**

75 In direct access file organization

A sorting of the records are not required

B It accesses the desired records immediately.

C It updates several files quickly.

D It has better control over record allocation.

E All of the above

Ans **All of the above**

76 In direct access file organization

A Direct access file does not provide backup facility.

B It is expensive.

C It has less storage space as compared to sequential file

D All of the above

Ans **All of the above**

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- 77 In direct access file organization
- A Direct access file does not provide backup facility.
 - B It is expensive.
 - C It has less storage space as compared to sequential file
 - D All of the above

Ans **All of the above**

- 78 Which of the following is not true in the case of direct access file organization
- A May be less efficient in the use of storage space than sequentially organized file.
 - B Expensive hardware and software resources are required.
 - C Updating of records are sequential
 - D System design around it is complex and costly
 - E All of the above

Ans **Updating of records are sequential**

- 79 Which of the following is not true in the case of direct access file organization
- A May be less efficient in the use of storage space than sequentially organized file.
 - B Expensive hardware and software resources are required.
 - C Updating of records are sequential
 - D System design around it is complex and costly
 - E All of the above

Ans **Updating of records are sequential**

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80 Direct access file organization is a Organization of files based on a unique for each file, which is accessed directly through the memory address of the key.

A True.

B False

Ans **True**

81 Direct access file organization allows data to be retrieved quickly in a random manner, regardless of the way in which the data was originally stored

A True.

B False

Ans **True**

82 In direct access file organization, the unique key that is used to organize files is converted directly to a memory address, using a mathematical formula called a hashing algorithm

A A hashing algorithm

B Searching algorithm

C Sorting Algorithms

D None of the above

Ans **A hashing algorithm**

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- 83 **I.** A random-access data file enables you to read or write information anywhere in the file.
- II.** In a sequential-access file, you can only read and write information sequentially, starting from the beginning of the file.
- A Statement **I** is true , Statement **II** is false
- B Only Statement **II** is true
- C Both Statement **I & II** are true
- D Bothe Statement **I & II** are false
- E Only Statement **I** is true

Ans **Both Statement I & II are true**

- 84 Direct access file organization , multiple keys are used to organize files
- A True.
- B False

Ans **False**

- 85 Select the odd one out
- A Direct access file organization
- B Sequential access file organization
- C Relative access file organization
- D Random access file organization

Ans **Sequential access file organization**

- 86 ----- opens the file and sets the file pointer to immediately before the first record
- A Fopen
- B Open
- C Append
- D All of the above

Ans **open**

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87 ----- is used to return the next record to the user

ARead-next

BRead

CRead-current

DFread

Ans **Read-next**

88 ----- is used to terminates the access to the file

AFclose

BEnd

CClose

DAll of the above

Ans **Close**

89 ----- File pointers are set to next of last record and write the record to the file

A Read-next

B Write

C Write-next

D Fwrite

Ans **Write-next**

90 The following keyword is used to search for the record with a given key

ASearch

BFind-key

CSearch-key

DFsearch

Ans **Search**

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- 91 ----- is used to current record is written at the same position with updated values
- A Append
 - B Update
 - C Add
 - D Fadd

Ans **Update**

- 92 Which of the following is not a drawback of sequential file organization
- A Insertion & Deletion of records in between positions
 - B Accessing any records is a time consuming process
 - C Needs organization of files from time to time
 - D Used to access large databases

Ans **Used to access large databases**

- 93 ----- are often used in accessing large databases
- A Sequential file organization
 - B Direct Access File organization
 - C Random access file organization
 - D All of the above

Ans **Direct Access File organization**

- 94 To move the cursor to the current position following file position indicator is used
- A Seek_set
 - B Seek_cur
 - C Fseek
 - D Both A & B

Ans **Seek_cur**

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95 A sequential data file that is indexed is called as-----

AIndexed sequential file

BRandom access file

CDirect access file

DAll of the above

Ans **Indexed sequential file**

96 ----- is used to store large amount of data

ALinked file organization

BIndexed sequential file organization

CRandom access file

DNone of the above

Ans **Indexed Sequential file organization**

97 Following is not true for Index sequential file organization

AAccessing any record is more efficient

BIt is more efficient than sequential file organization

CAn indexed file contains records ordered by a record key

DIt requires less storage area

Ans **It requires less storage area**

98 Which of the following is not a part of index sequential file

AA primary storage area

BA secondary storage area

CA separate index

DAn overflow area

Ans **A secondary storage area**

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99 ----- is not suitable for index sequential storage

AMagnetic disc

BMagnetic tape

CBoth A & B

DNone of the above

Ans **Magnetic tape**

100 ----- is used in digital library

AIndex Sequential files

BSequential files

CDirect Access file organization

DBoth A & B

Ans **Index sequential files**

101 The physical sequence of records is different from the logical sequence of records is present in-----

A Linked organization

B Sequential file organization

C Random access file

D Direct access file organization

Ans **Linked organization**

102 Which of the following is not an advantage of mergesort

AUsed for internal & external sorting

BStable sorting algorithm

CRequires extra memory for storing

DVery efficient method

Ans **Requires extra memory for storing**

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103 Overall Time complexity of mergesort

AO(n)

BO(logn)

CO(nlogn)

DO(n^2)

Ans **O(nlogn)**

104 -----is required when the data being sorted do not fit into the main memory of a computing device (usually RAM) and instead they must reside in the slower external memory (usually a hard drive)

A Sorting

B Internal sorting

C External sorting

D Both A & C

Ans **External sorting**

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Function	Description
fopen()	Opens new or existing file
fprintf()	Write data into file
fscanf()	Read data from file
fgetc()	Read character from file
fputc()	Writes character into file
fclose()	Closes the file
fseek()	Set the file pointer to given position
fgetw()	Reads an integer from file
fputw()	Writes an integer to file
ftell()	Returns current position
rewind()	Sets the file pointer to the beginning of the file

Paramter	Text file	Binary File
Data formats	Text	Binary
Readability	Easily Readable	Not Readable
Understability	Easily understood by user	Easily understood by computer
Accuracy	While reading writing data, some conversion errors may occur	Highly accurate
Speed	Comparatively less speed	Comparatively more speed

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1. Which type of data file is analogous to an audio cassette tape?

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- a) random access file
 - b) sequential access file**
 - c) binary file
 - d) source code file
2. Which of the following header files is required for creating and reading data files?
- a) `ofstream.h`
 - b) `fstream.h`**
 - c) `ifstream.h`
 - d) `console.h`
3. If you create a file with the same name as an existing file, you will be prompted to rename your new file.
- a) True
 - b) False**
4. In the code `fout.open("scores.dat", ios::out);`
- a) `ios::out` is the stream operation mode.**
 - b) `fout` is the header file reference.
 - c) `ios::out` is the stream variable name.
 - d) `fout` is the name of the file.
5. A text editor can be used to view, or create, a file.
- a) True**
 - b) False
6. The only way to detect errors when accessing files is to use the `assert.h` header file and the `assert` function
- a) True
 - b) False**
7. `ifstream fin;` would be used when
- a) creating a file
 - b) reading a file**
 - c) appending a file
 - d) removing a file
8. `eof()` is the function used for
- a) asserting no errors in a file
 - b) appending data to a file
 - c) counting the amount of data in a file
 - d) checking for end of file**
9. If a file you are opening for appending does not exist, the operating system will detect the missing file and terminate the operation.
- a) True
 - b) False**
10. It is possible to open several files for access at the same time.
- a) True**

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b) False

11. An index is clustered, if

- a) it is on a set of fields that form a candidate key
- b) it is on a set of fields that include the primary key
- c) the data records of the file are organized in the same order as the data entries of the index.
- d) the data records of the file are organized not in the same order as the data entries of the index.

12. A clustering index is defined on the fields which are of type

- a) non-key and ordering
- b) non-key and non-ordering
- c) key and ordering
- d) key and non-ordering

13. A FAT (file allocation table) based file system is being used and the total overhead of each entry in the FAT is 4 bytes in size. Given a 100×10^6 bytes disk on which the file system is stored and data block size is 10^3 bytes, the maximum size of a file that can be stored on this disk in units of 10^6 bytes is _____.

- a) 99.55 to 99.65
- b) 100.5 to 101.4
- c) 97.2 to 98.5
- d) 89.1 to 91.2

14. In the index allocation scheme of blocks to a file, the maximum possible size of the file depends on :

- a) the size of the blocks, and the size of the address of the blocks.
- b) the number of blocks used for the index, and the size of the blocks
- c) the size of the blocks, the number of blocks used for the index, and the size of the address of the blocks.
- d) None of this.

15. A file is organized so that the ordering of data records is the same as or close to the ordering of data entries in some index. Then that index is called

- a) Dense
- b) Sparse
- c) Clustered
- d) Unclassified

16. An organized logical sequence of records is called

- a) File
- b) Organization
- c) Scrubbing
- d) Sequencing

17. Which of the following true about FILE *fp

- a) FILE is a structure and fp is a pointer to the structure of FILE type

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- b) FILE is a buffered stream
- c) FILE is a keyword in C for representing files and fp is a variable of FILE type
- d) FILE is a stream

18. Which stream class is to only write on files ?

- a). ofstream
- b). ifstream
- c). fstream
- d). iostream

19. It is not possible to combine two or more file opening mode in open () method.

- a). True
- b). False

20. Which of these is the correct statement about eof() ?

- a). Returns true if a file open for reading has reached the next character.
- b). Returns true if a file open for reading has reached the next word.
- c). Returns true if a file open for reading has reached the end.
- d). Returns true if a file open for reading has reached the middle.

21. Which of the following methods can be used to open a file in file handling?

- a). Using Open ()
- b). Constructor method
- c). Destructor method
- d). Both A and B

22. Which operator is used to insert the data into file?

- a). >>
- b). <<
- c). <
- d). None of the above

23. Which is correct syntax ?

- a). myfile:open ("example.bin", ios::out);
- b). myfile.open ("example.bin", ios::out);
- c). myfile::open ("example.bin", ios::out);
- d). myfile.open ("example.bin", ios::out);

24. If we have object from ofstream class, then default mode of opening the file is _____

- a). ios::in
- b). ios::out

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c).ios::in|ios::trunc

d).ios::out|ios::trunc

25. Which is correct syntax for, position n bytes back from end of fileObject ?

a). FileObject.seekg(ios::end, n);

b). FileObject.seekg(n, ios::end);

c).FileObject.seekg(n, ios::end);

d). FileObject.seekg(ios::end, n);

26. When fopen() is not able to open a file, it returns

a). EOF

b). Null

c). Runtime error

d). Compiler dependent

27. By default, all the files are opened in which of the following mode?

a). Binary Mode

b).Text Mode

c).Sequential Mode

d). Both A and B

28.How many objects are used for input and output to a string?

a). 1

b). 2

c).3

d). 4

29. Calling the stream's member function sync() causes an immediate synchronization.

a). Yes

b). NO

30. Which of the following is not used to seek a file pointer?

a). ios::cur

b). ios::beg

c).ios::end

d).ios::set

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