file = non-contagious

4kb.

Resume. docx

4k →777

4k →811

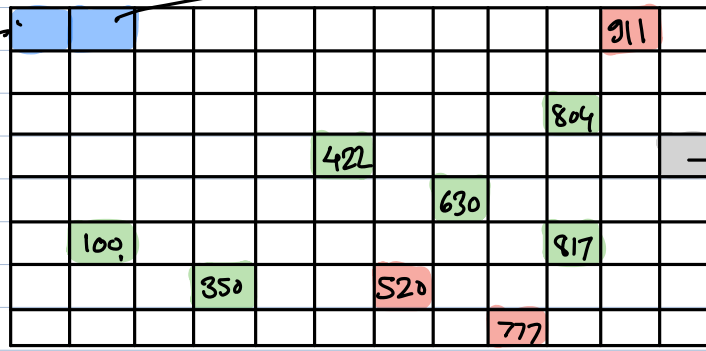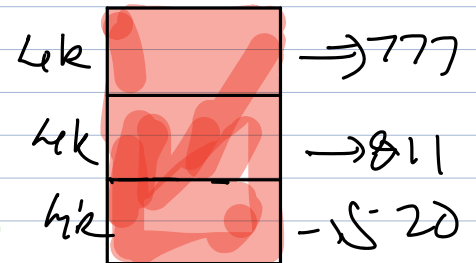hk -S20

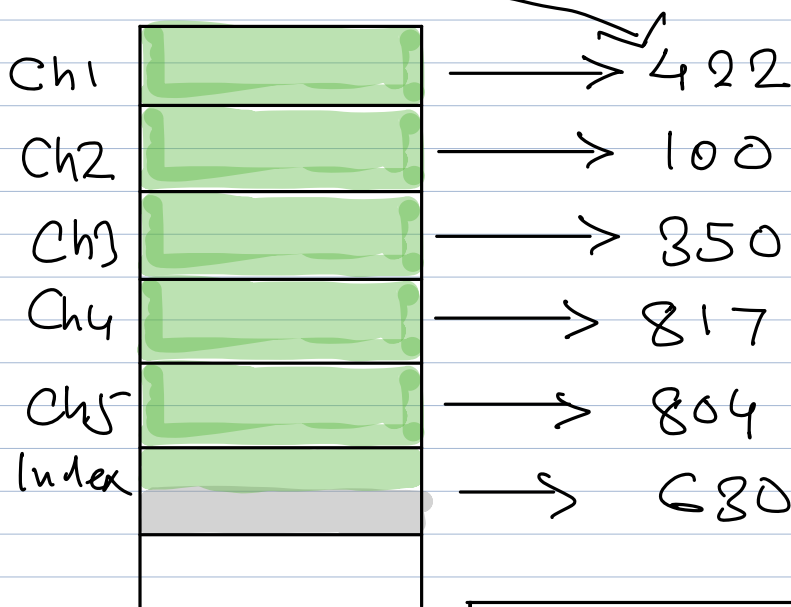book.pdf   22kb

No. of block = 6.

Size of each block = 4kb

total Size on Disk = 24.

first five block = totally filled.

Sixth block = 2kb. filled

2kb = Unoccupied.

book.pdf = 100, 350, 422, 630, 804, 817.

Ch1	→ 422
Ch2	→ 100
Ch3	→ 350
Ch4	→ 817
Ch5	→ 804
Index	→ 680

Hard-disk.

Meta-Data = Data About Data.

0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15
16	17	18	19
20	21	22	23

CUP-0

			23

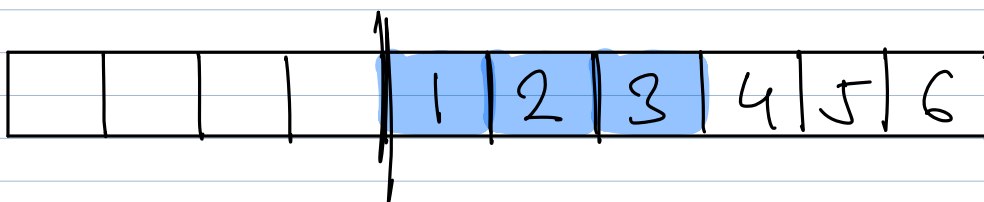CUP-1

100 Page - Diary

book-name	Cup-board-no.	cabinet #
A	0	18
	1	23

Book about books
= meta-book.

Operating
System allocates
a new number
to every new file.
(Starting from 1)

				1	2	3	4	5	6

1000   1000

file roli number = 506

$$1000 + 506 - 1$$ $$1000 + 506 - 1$$
$$= 1505$$

file Roll number = N.
Metablock Block   #START   = $\boxed{S}$

$$\boxed{S + \boxed{N} - 1}$$ metablock.

S $\boxed{1001}$ 1002 1003
   $\boxed{1}$ 2   3

S+1   S + 1 - 1

1001 + 1 = 1002

S   S+1   S+2   S+k-1

1   2   3   R.

Summary.

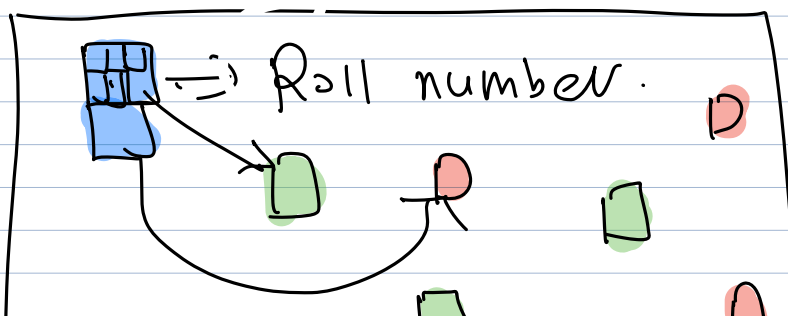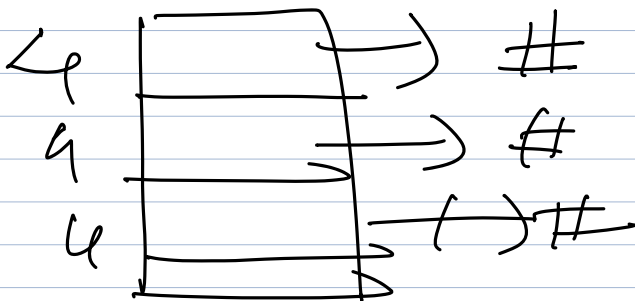New file.

1) Roll Number.
2) Metablocks स्टार्ट निश्चित होतात

$$= \text{Metablocks}_{\#Start} + \text{Roll number}$$

$$-1. = \text{Disk block}.$$

Roll number 506
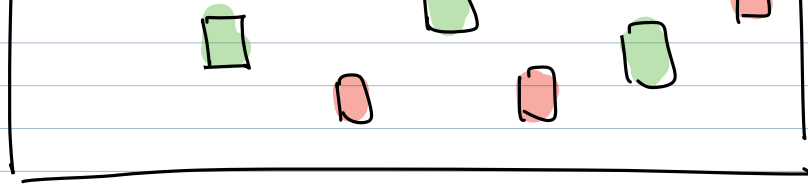
H. Disk block number where meta-block of file is stored

$$= \text{Metablocks}_{\#Start} + 506 - 1$$

$$= \text{Metablocks}_{\#Start} + 505.$$

Roll number.

F. S.

Collection of data. †

Roll Number given to new file by the
O.S = Inode Number
I - node = Indexed Node.

Every file on disk has
a unique I- node number.

I- node number allows us to
locate meta-block of file on
disk.

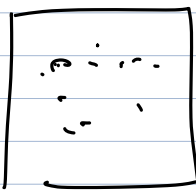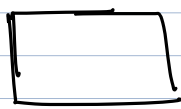Meta-block allows to locate
data of file on disk with
Sequence.

book.pdf $\longleftrightarrow$ I-node
resume.docx $\longleftrightarrow$ I-node
final_project.pptx. $\longleftrightarrow$ I-node

---

book.pdf $\longrightarrow$ (I-node)
$\longrightarrow$ Meta block of book.pdf
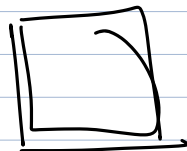$\longrightarrow$ Data book. pdf.

Directory / folder.

Telephone. नाम $\longleftrightarrow$
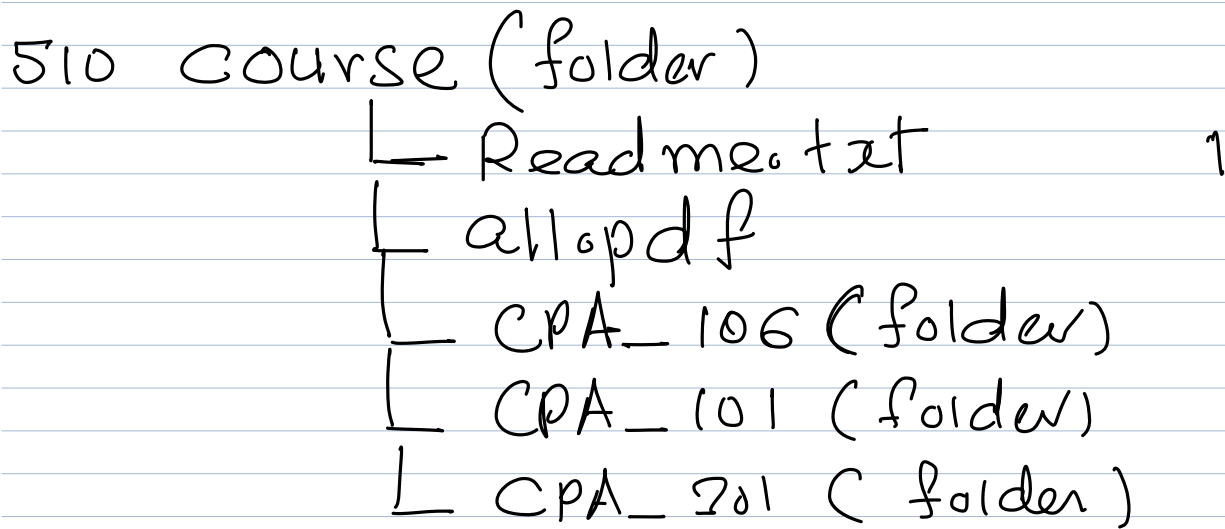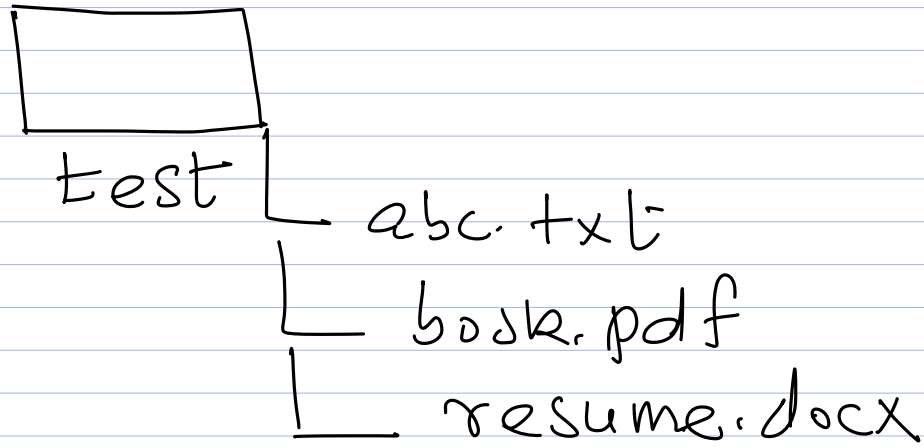Unique number directory

नाम telephone
number

file name $\longleftrightarrow$ I-node
directory file /
folder

---

folder = अंदर file रखा मतलब
file name — I-node

डेटाब्लॉक मधील Stone
केलेला जातात.

---

test
- abc. txt
- book. pdf
- resume. docx

---

510 course (folder)
- Readme. txt   1
- all.pdf
- CPA_106 (folder)
- CPA_101 (folder)
- CPA_201 (folder)

Course 510 — Inode → metablock → data

Readme. txt	⟷	500
all. pdf	⟷	600
CPA_106	⟷	550
CPA_101	⟷	700
CPA_201	⟷	800

550   700   800

metablock   meta block   meta block

data   data   data
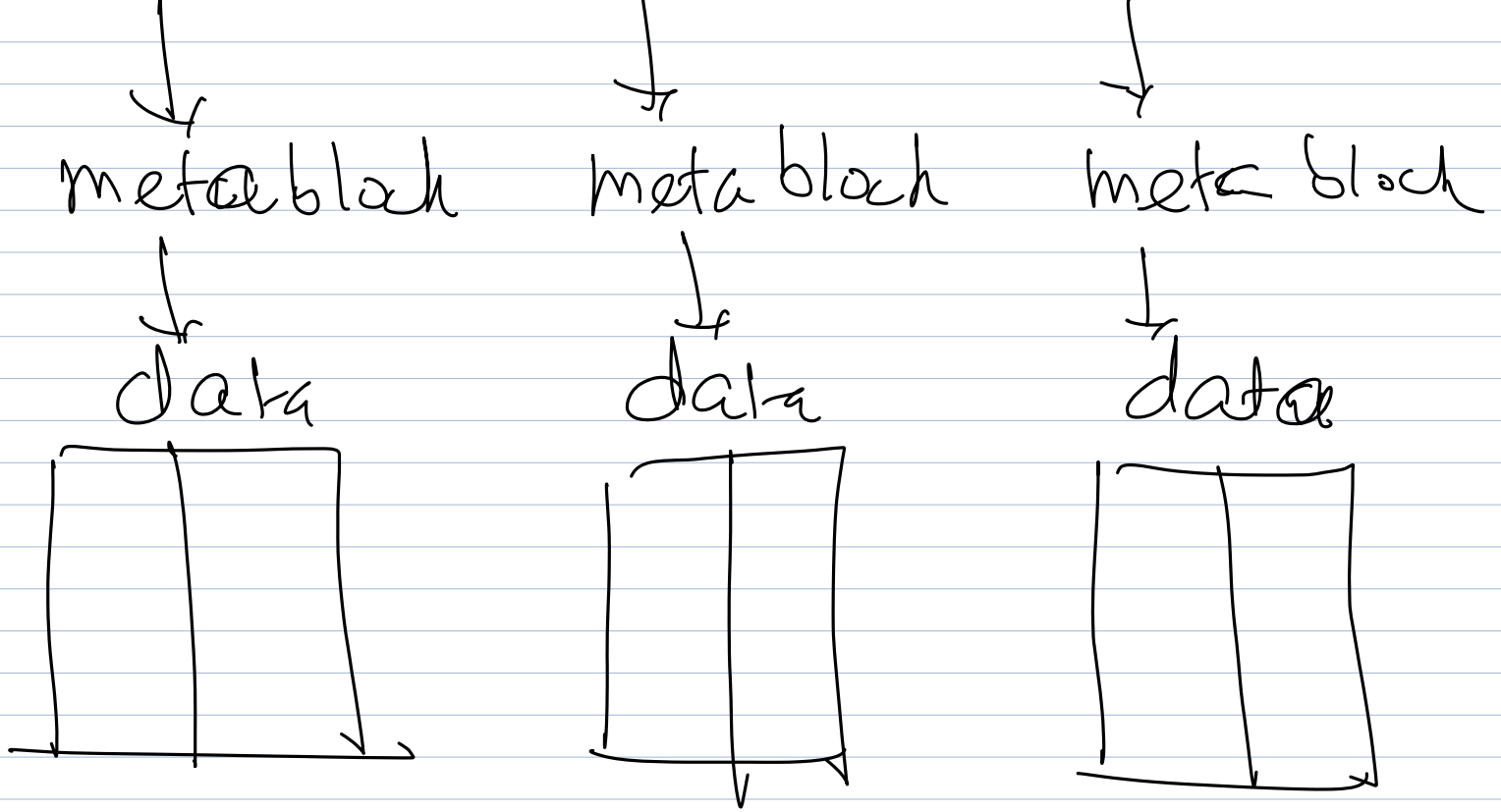
C: D: E: H:

C:\Documents\abc.txt

How to find data of abc.txt.

C: ——→ Inode Number
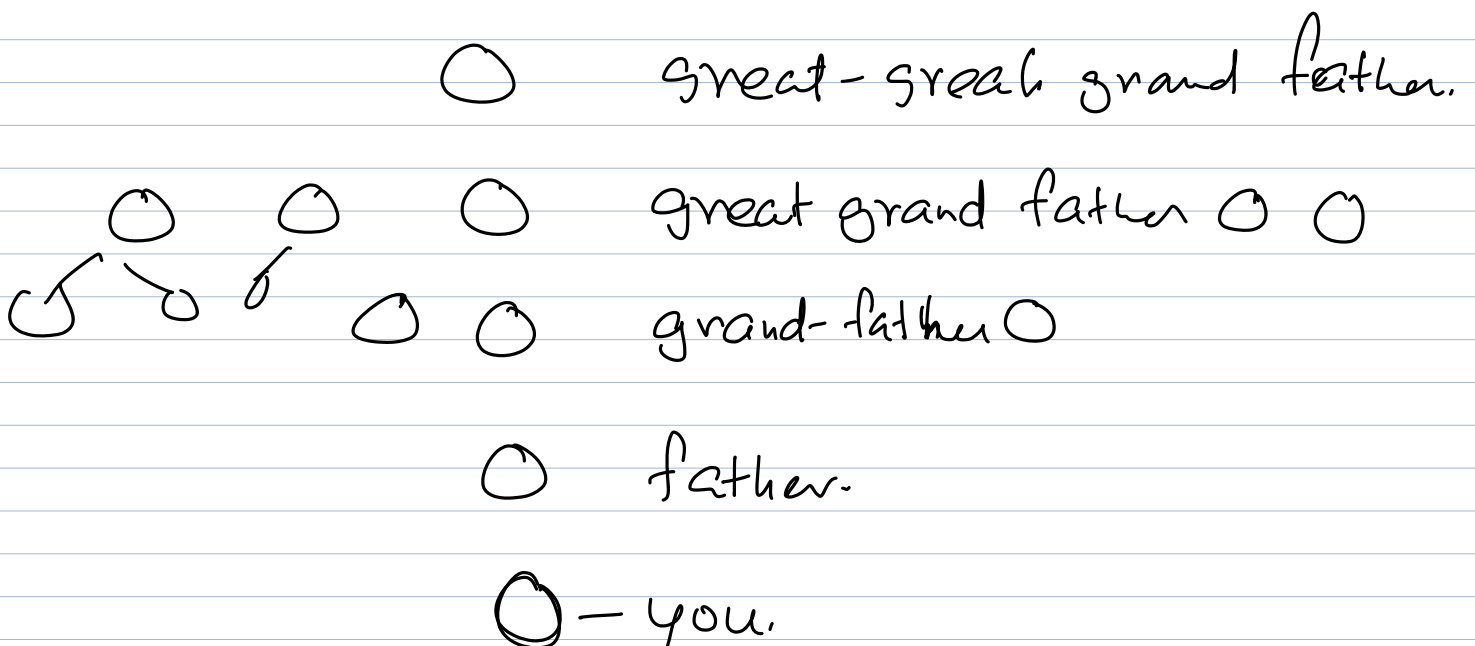(Known).
↓
Metablock of C:
↓
Data of C: folder
↓
Search Documents
entry.

Documents ——→ Inode number

Meta block of
Documents folder

↓

Data of Documents

↓

Search entry for
abc. txt'

abc. txt ⟶ Inode number

↓

Metablock of abc.txt

↓

Data blocks of
abc. txt with seq.

◯   great-great grand father.

◯ ◯   ◯   great grand father ◯ ◯

◯ ◯   grand-father ◯

◯   father.

◯ — you.

Every file has three things.

1) Inode-number (given by O.S.)

2) Name (given by user) (base name)

3) Path-name (Depends on folder in which you are created)

└──→ Absolute path name.

C:\Documents\CPA\CPA_101\hello.C
└→ Absolute path name

C:\Documents\CPA\CPA_101\hello.C
Absolute Path name

C:\Documents\CPA\CPA_101\ hello.C
                              base name

C:\Documents\CPA\CPA_101\ hello.C
└──→ Dir name

C:\Documents\CPA\CPA_101\hello.C

Path name component.

C:\Documents \ CPA \ CPA_101 \ hello.c

Path name separator.
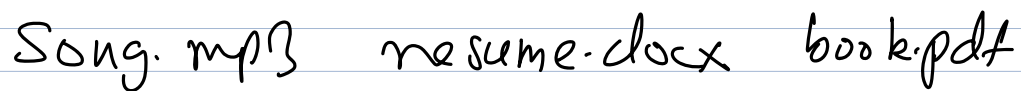
ABSOLUTE PATH NAME = DIRNANE + BASENANE

(M.G. Road)

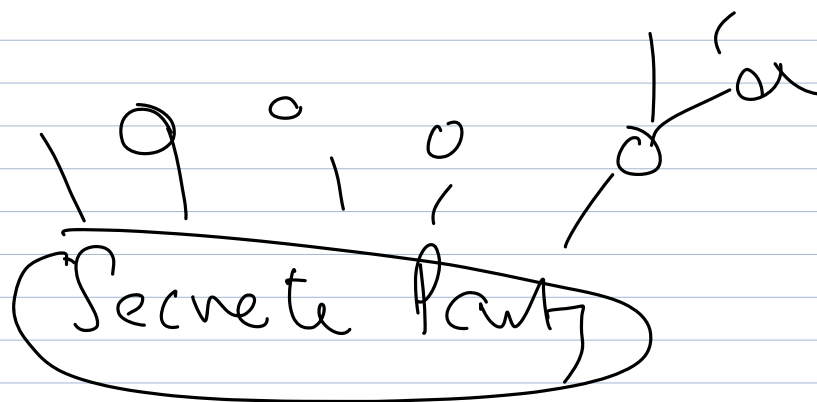Universe\ cluster \ Milky way \ Solar system \earth\Asia\Bharat\ Maharashtra \Mumbai \ MG. Road
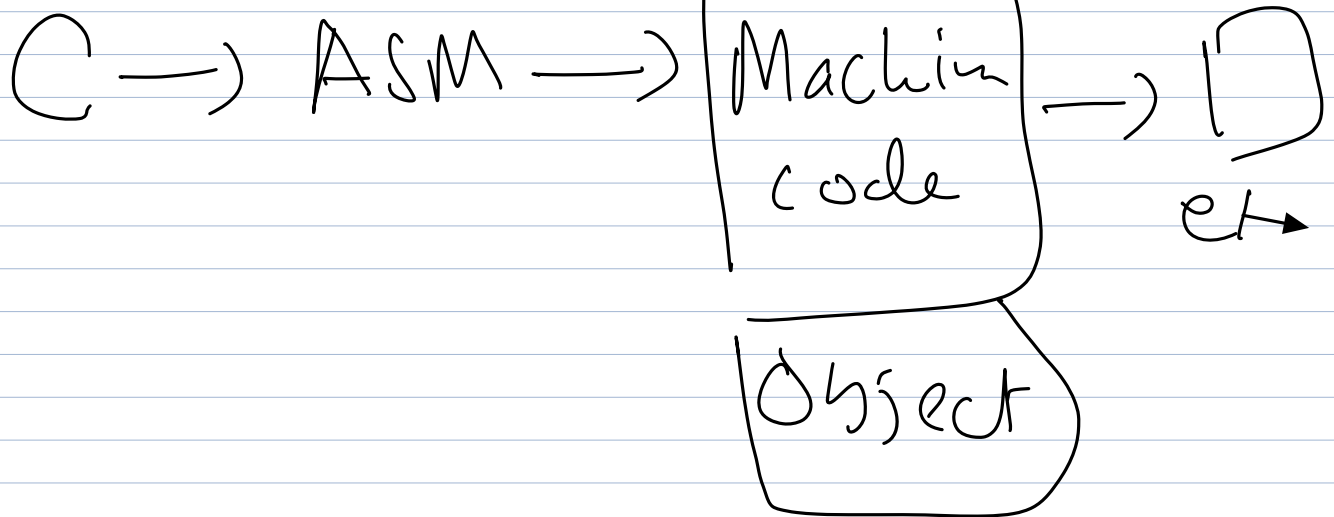
Mumbai\ MG. Road

Process:

Executable File:-

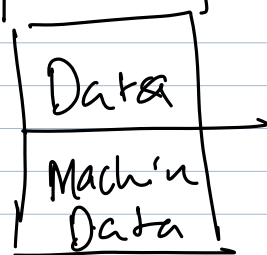Machine language code.

RAM

Program loader in O.S.

→ file with machin code

—— HDD

Song.mp3   resume.docx   book.pdf

Data only

Secrete Party

700c

Header

Header.

Data
Mach'n
Data

C $\longrightarrow$ ASM $\longrightarrow$ Machin code $\longrightarrow$ et

Object

Process / Application =

Running instance of executable file.