

2019 FAT 16 oplossingen

GPT

find the disk GUID:

F2 5A 52 C8 C3 C6 A4 94 46 0D 3C E6 87 7D 61 D7

calculate the maximum partition size (use the first and last usable LBA's):

first: 0022 (34)d

last: 00 4F DE (20446)d

max bytes: 10 450 944

single partition entry:

128 bytes

PARTITION ENTRY

The size: 18 398 blocks or 9 419 776 bytes

first block: block #2048

offset: 0x100000

PARTITION LAYOUT

How many copies of the FAT are there?

2

How large is one FAT?

72 sectors, 36 864 bytes

How many file/directory entries can be stored in the root directory?

512 items

How large is the root directory? (32 bytes/entry)

$512 * 32 = 16\,384$ bytes, of 32 sectoren

Compute the offsets of the following sections

Boot Sector = 0x1000000

FAT 1 = 0x101000

FAT 2 = 0x10A000

Root dir = 0x113000

Data section = 0x117000

DIRECTORY ENTRY

INTERPRET

filename = PROGRAMS Attributes = Directory last write time = 3:25:44 last write date = 26/10/2005 first logical cluster = 0140

LIST (name, attributes, size and first cluster)

BS LABO - volume- 0000 (first cluster)
hello.txt - archived - 13 bytes - 0002h
docs - Directory - 0 bytes - 0003h
system - directory - 0 bytes - 0004h
building.jpg - none - 79829 bytes - 25h
nala.jpg - Read-only - 69508 bytes - C1
bill.jpg - archived - 13024 bytes - 15E

FAT how many clusters will the file bill.jpg occupy?

#clusters = 26 clusters

first physical cluster of bill.jpg?

logical = 15E => offset = (15E - 2)*200 + 0x117000 = 0x142800

RECONTSTRUCT POEM 1) 151 2) 01D6 3) 0195 4) 018a 5) 15d 6) 1ae 7) 023a 8) 1fe (9) FFFF)

poem: i feel like i haven't been read right
for 10 years of drops from heights
waiting for scandisk
to repair me
your os says let's go
but my boot sector says no
if you want to read me, there's a proper way
I'm a floppy in a disk drive, you gotta format me the right way

LONG FILENAMES 1) DOCS subdirectory = $0x117000 + ((0003 - 2) * 200) = 0x117200$ 2) short = QUESTI~1 3) long = "questions exam operating systems (2017)"

RECOVERING DELETED FILES SYSTEM subdirectory = $0x117000 + ((0004 - 2) * 200) = 0x117400$
directx.log
first cluster = 0020 (offset data 0x11AC00)

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