ANNEX A · PARTITIONS: MBR & GPT

Name: _____ **Date:** _____

PART A · A NEW DISK: ADD IT, NAME IT

1. **Shut down** deb-lab. In its window: **View → Details** (light bulb) → **Add Hardware** → **Storage** → Create a disk image for the virtual machine: **5** GiB → Device type: Disk device → Bus type: **VirtIO** → **Finish**. Start the VM.
   DONE WHEN The list on the left shows a second disk.
2. In the terminal: `lsblk` The system disk is _____ with _____ G. The **new** disk is _____ with _____ G and nothing under it.
3. `sudo fdisk -l /dev/vdb` → sectors: _____ bytes per sector: _____ Is there a line `Disklabel type` ? _____
   DONE WHEN You can say the name of the new disk without looking. If it is not `vdb`, use **your** name everywhere below.

Before every command that writes to a disk: `lsblk` · read the size · say the name. Never `vda`.

PART B · PRACTICAL 4.3, PART 1 · THE OLD TABLE: MBR WITH FDISK

Make this layout: two **primary** partitions (2 GiB and 1 GiB), one **extended** with the rest, and inside it two **logical** partitions (1 GiB and the rest).

1. `sudo fdisk /dev/vdb` then `o` (new empty MBR table) and `p` (print).
2. First primary: `n` → `p` → `1` → Enter → `+2G`
3. Second primary: `n` → `p` → `2` → Enter → `+1G`
4. Extended, all the rest: `n` → `e` → `3` → Enter → Enter
5. First logical: `n` → Enter → `+1G` Which number did fdisk give it? _____
6. Second logical, all the rest: `n` → Enter → Enter
7. `p` and check. A mistake? `d` deletes one partition; `q` leaves without saving and you start again.
   DONE WHEN `p` shows five lines: `vdb1` 2G, `vdb2` 1G, `vdb3` Extended, `vdb5` 1G, `vdb6` about 1G.
8. Only now: `w` (write). Then `lsblk` and `sudo fdisk -l /dev/vdb`. **Copy the output into your report.**
   `Disklabel type:` _____

PART C · PRACTICAL 4.3, PART 2 · THE TRAMUNTANA DISK: GPT WITH PARTED

Tramuntana Apps wants this disk for the office: `dev` 2 GiB, `design` 2 GiB and `exchange` with the rest. Careful: `parted` writes **every command at once**.

1. `sudo apt install parted` then `sudo parted /dev/vdb` and inside it: `print`
2. New GPT table: `mklabel gpt` → read the warning → type `Yes`
3. `mkpart dev 1MiB 2GiB`
4. `mkpart design 2GiB 4GiB`
5. `mkpart exchange 4GiB 100%`
6. `print` and check; a mistake? `rm 2` deletes partition 2. Then `quit`.
7. `lsblk -o NAME,SIZE,TYPE,PARTLABEL /dev/vdb` and `sudo fdisk -l /dev/vdb`. **Copy both outputs into your report.**
   DONE WHEN Three partitions: `vdb1` 2G `dev`, `vdb2` 2G `design`, `vdb3` about 1G `exchange`; `Disklabel type: gpt`.

Answer in the report (one or two lines each):

1. In part 1, why do the partition numbers jump from 3 to 5?

   _____

2. What happened to the five partitions of part 1 when you typed `mklabel gpt` ?

   _____

3. In which of the two tools can you change your mind, and until which moment?

   _____

Hand in on Classroom before Friday's class: `practical-4.3-surname.md`. **Marking:** part 1 3.5 · part 2 3.5 · questions 2 · report 1. **Do not delete the disk:** you need it tomorrow.

PART D · EXIT TICKET (ALONE, NO TERMINAL)

1. How many primary partitions fit in an MBR table?

A 1 **B** 2 **C** 4 **D** 128

2. In `fdisk`, your changes reach the disk when you type…

A `w` **B** `n` **C** `p` **D** `q`

3. Tramuntana buys a 4 TB disk. Which table, and why?

A MBR: it is the standard one
B GPT: MBR stops at 2 TiB
C MBR: GPT is only for SSDs
D Either: the size does not matter

4. `/dev/vdb2` is…

A the second virtual disk
B a directory inside `/dev/vdb`
C two disks joined together
D the second partition of the disk `vdb`

5. On an MBR disk, the first logical partition gets the number…

A 1 **B** 4 **C** 5 **D** 0