ANNEX A · PRACTICAL 2.7 — BREAK IT, FIX IT

NAME _____ **DATE** _____

Today you break your own machines on purpose. **Never skip tasks 1 and 2**: they are the net. `USERNAME` means your user name in the VM. One VM running at a time.

TASKS 1–2 · 15 MIN

TASK 1 The net: two snapshots

In virt-manager, open `deb-lab` → menu **View** → **Snapshots** → the **+** button → name `before-break` → **Finish**. Do the same for `win11`. Then check it on the host, the class server: open a Terminal on your PC (not inside a VM) and log in with your slip's user and password:

```
ssh <user>@<server>
```

```
virsh -c qemu:///session snapshot-list deb-lab
```

Type `exit` when you finish. Names of the snapshots it lists:

_____

DONE WHEN the list shows `clean` and `before-break`.

TASK 2 The net in Windows: a restore point

In `win11`: Start → type **Create a restore point** → open it. Select drive `C:` → **Configure** → **Turn on system protection** → OK. Then **Create...** → name `before-vlc`.

Was protection on or off when you arrived? _____

DONE WHEN Windows says the restore point was created successfully. Shut `win11` down.

TASKS 3–4 · 20 MIN

TASK 3 Break A: the lost password

In `deb-lab`, give the keyboard to your neighbour. They type this and choose a password you do **not** see:

```
sudo passwd USERNAME
```

Log out. Try to log in. You cannot. Now get your machine back:

1. Restart the VM. Click inside the window at once and press the **down arrow** to stop the menu.
2. Choose **Advanced options for Debian GNU/Linux**, then the line that ends in **(recovery mode)**.
3. When it asks for the root password, type it.
4. Type the two commands:

```
passwd USERNAME
reboot
```

What is the last character of the prompt in recovery mode, and what does it mean?

_____

_____

Plan B — only if it says the root account is locked. Restart. In the menu, stay on the first line and press `e`. Go to the line that starts with `linux`, go to its end, add a space and `init=/bin/bash`. Press **Ctrl + X**. Then:

```
mount -o remount,rw /
passwd USERNAME
sync
reboot -f
```

DONE WHEN you log in to the desktop with a password that you chose.

TASK 4 Break B: the lost menu

In `deb-lab`:

```
sudo rm /boot/grub/grub.cfg
sudo reboot
```

What do you see? Which runner of the boot relay dropped the baton?

_____

_____

Do not repair it. In virt-manager: **View** → **Snapshots** → select `before-break` → the **play** button (Run selected snapshot). Seconds it took: _____

Which password opens the desktop now: the old one or the one from task 3? Why?

_____

_____

DONE WHEN `deb-lab` starts normally. Shut it down.

TASKS 5–6 · 25 MIN

TASK 5 Windows: go back in time

In `win11`, in the Terminal:

```
winget install --id VideoLAN.VLC -e
```

On the Desktop, create a text file `notes.txt` and write one line in it. Then press **Windows + R**, type `rstrui.exe`, Enter. Choose `before-vlc` → **Scan for affected programs** → read it → **Next** → **Finish**. Wait: it restarts by itself.

After the restore: is VLC installed? _____ Is `notes.txt` still there? _____

What does System Restore bring back, and what does it not touch?

DONE WHEN a window says System Restore completed successfully.

TASK 6 **Windows: the recovery environment**

Start → Power → hold **Shift** and click **Restart**. The four options of the first screen:

Troubleshoot → **Advanced options**. Three tools you find there, and when you would use each:

Startup Settings → **Restart** → press **4**. Two things that look different in Safe Mode:

Restart normally.

DONE WHEN `win11` is back on its normal desktop.

Hand in on Classroom, by Tuesday 17/11 at 23:59: `practical-2.7-surname.md`. One section per task: what you did, what you saw (evidence), what it means. Last section: a table with the three safety nets — goes back, you lose, you need — and one failure where you would choose each.

Marking (10): nets created, with evidence 2 · Break A fixed and explained 2 · Break B reverted, password question answered 2 · System Restore, with the VLC / notes result explained 2 · WinRE tools 1 · final table and clear Markdown 1.

EXIT TICKET

1. A snapshot of a VM is…

- [ ] **A** a copy of the VM on another disk
- [ ] **B** the saved state of the VM's disk at one moment
- [ ] **C** a list of the installed programs
- [ ] **D** an update that can be undone

2. You revert `deb-lab` to a snapshot from Monday. What happens to a file you created on Tuesday?

- [ ] **A** It moves to the trash
- [ ] **B** It stays, only the system goes back
- [ ] **C** It is copied to the host
- [ ] **D** It is gone

3. Which Debian boot menu entry gives you a root shell to repair the system?

- [ ] **A** The one that ends in (recovery mode)
- [ ] **B** UEFI Firmware Settings
- [ ] **C** Safe Mode
- [ ] **D** Startup Repair

4. System Restore on Windows goes back to a restore point. What does it leave alone?

- [ ] **A** Installed programs
- [ ] **B** System settings
- [ ] **C** Your documents
- [ ] **D** Drivers

5. Windows fails to start twice in a row. What happens next?

- [ ] **A** It reinstalls itself
- [ ] **B** It opens the recovery environment
- [ ] **C** It deletes the last update
- [ ] **D** It reverts to a snapshot