LAB08: PULP-NE16

Davide Nadalini – d.nadalini@unibo.it

Luka Macan – luka.macan@unibo.it

Lorenzo Lamberti – lorenzo.lamberti@unibo.it

Francesco Conti – f.conti@unibo.it

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Objective of the Class

Lesson: NE16 accelerator

Programming Language: C

Lab duration: 3h

Assignment:

- Time for delivery: 2 weeks
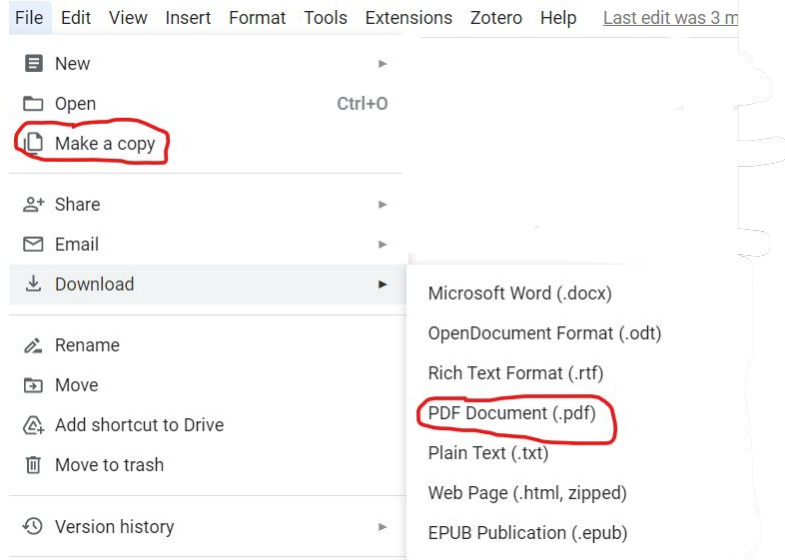
$$\text{Deadline:}$$

$$\text{Dec 27}^{th}\text{ 2024}$$

The class is meant to be interactive: coding together, on your own, and do not be afraid to ask questions!

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

How to deliver the assignment

You will deliver ONLY the GDOC assignment, no code
- Copy the google doc to your drive, so that you can modify it. (File -> make a copy)
- Fill the tasks on this google doc.
- Export to pdf format.
- Rename the file to: LAB<number_of_the_lesson>_APAI_<your_name>.pdf
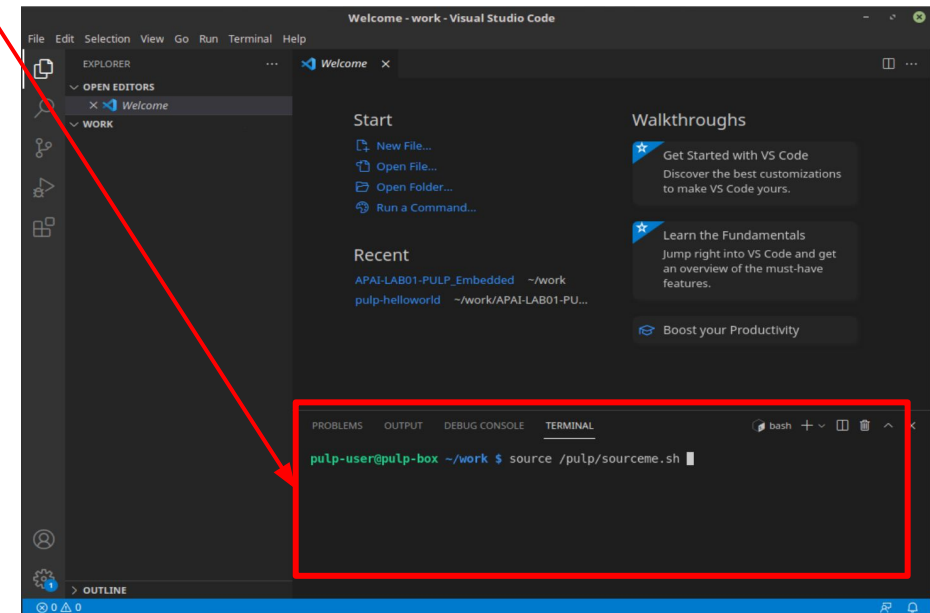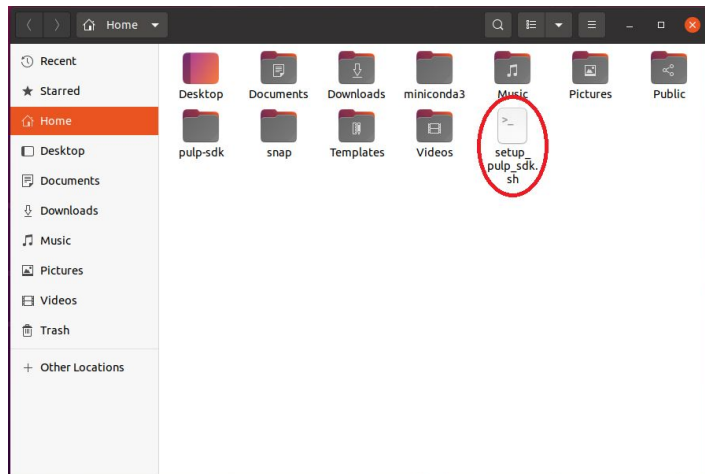- Use Virtuale platform to load ONLY your .pdf file

Opening the VM and VSCode

1. Open a terminal (right click – open a new terminal)

2. Open a text editor (For example "VSCode"):
   Now you can use the integrated terminal (open with CTRL+J) to run your applications!

```
$ code .
```

IMPORTANT: every time you open a new terminal to work on PULP, launch

```
$ source setup_pulp_sdk.sh
```

Getting Started

IMPORTANT: activate the pulp-sdk module file <u>every</u> time a new shell is open.

```
$ source setup_pulp_sdk.sh
```
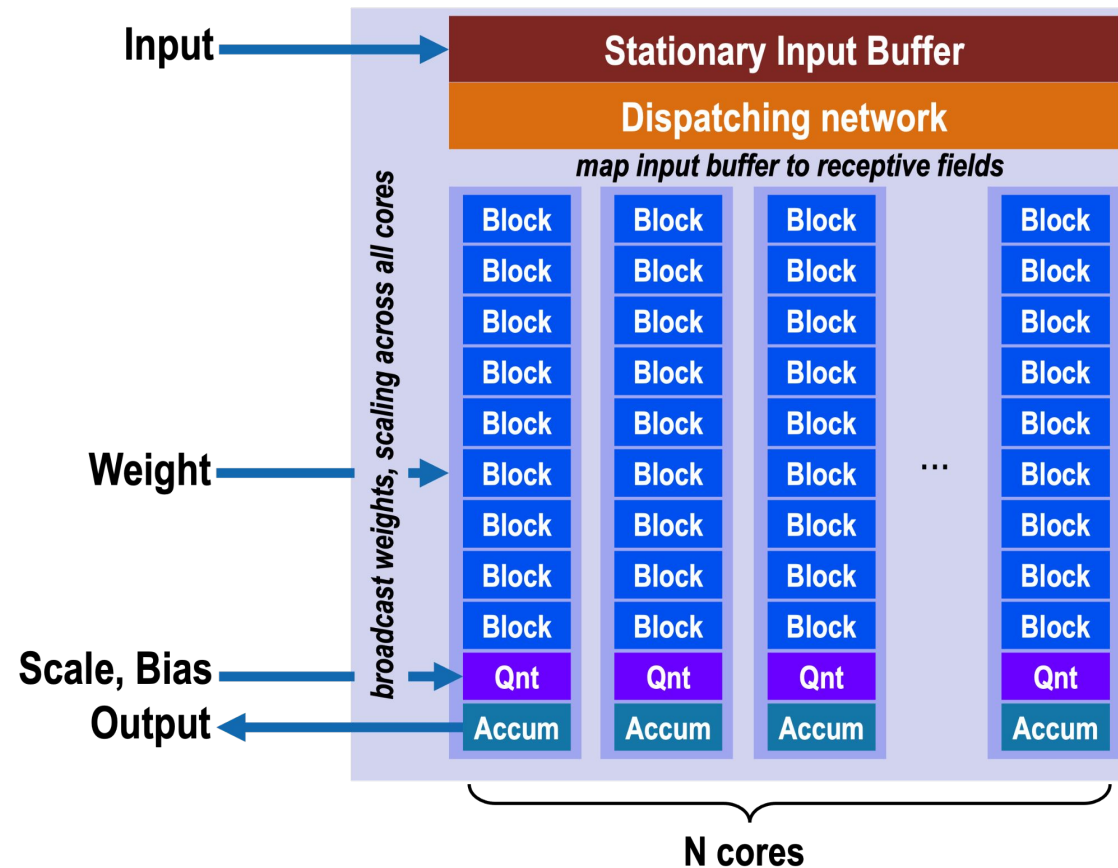
For the lab of today, we need to:

```
$ pip install mako numpy six
```

HOW TO RUN THE CODE:

```
$ git clone https://github.com/EEESlab/APAI24-LAB08-NE16
$ cd APAI24-LAB08-NE16
$ python3 parameters_generate.py --kernel-shape=<add_here>
--channels-in=<add_here> --channels-out=<add_here>
--output-spatial-dimension=<add_here>
$ make clean all run
```

Theory recap

Here are the lecture slides on NE16

Prerequisites/how to run code

```
Prerequisites:
source setup_pulp_sdk.sh


Run the code:
1.  python parameters_generate.py --kernel-shape=<add_here> --channels-in=<add_here> --channels-out=<add_here>
    --output-spatial-dimensions=<add_here>
2.  make clean all run
```

Follow the assignment document.

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DEI – Università di Bologna