OpenACC using Colab

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1 Part 1: Introduction

This document offers an introduction to porting algorithms on GPU with OpenACC using Colab.

2 Part 2: Running a Fortran code in Colab

2.1 About Colab

Colab is a free cloud service proposed by Google based on the Web Open Source application Jupyter-Notebook.

2.1.1 Compilation and Execution

2.1.2 Preview on the CPU code

2.1.3 OpenACC

Most of what will be presented here comes from this tutorial. Colab is a

```
!nvidia-smi
```

Here the outcome of this command:

```
Tue Nov 29 15:40:37 2022
+-----------------------------------------------------------------------------
| NVIDIA-SMI 460.32.03    Driver Version: 460.32.03    CUDA Version
|-------------------------------+----------------------+----------
| GPU  Name        Persistence-M| Bus-Id        Disp.A | Volatile U
| Fan  Temp  Perf  Pwr:Usage/Cap|         Memory-Usage | GPU-Util
|                               |                      |
|===============================+======================+==========
|   0  Tesla T4            Off  | 00000000:00:04.0 Off |
| N/A   46C    P8     9W /  70W |      0MiB / 15109MiB |      0%
|                               |                      |
+-------------------------------+----------------------+----------

+-----------------------------------------------------------------------------
| Processes:
|  GPU   GI   CI        PID   Type   Process name
|        ID   ID
|=============================================================================
|  No running processes found
+-----------------------------------------------------------------------------
```