

1 Prerequisites

- You have completed all week 1 lectures or videos
- You have completed Lab0 (MP0)
- **Chapter 2** of the text book would also be helpful

2 环境配置

根据目录中的 `rai_build.yml` 反推出 `makefile` 文件内容：

```
1 WB = ${WB_DIR}
2 .DEFAULT_GOAL := cleanall
3 .PHONY: clean cleanall
4 all: template
5
6 template: template.cu
7 nvcc -std=c++11 -rdc=true -I $(WB) -c template.cu -o template.o
8 nvcc -std=c++11 -o template template.o $(WB)/lib/libwb.so
9 bash run_datasets
10 clean:
11 -rm -f template.o
12
13
14 cleanall: clean
15 rm -f template
16
17
```

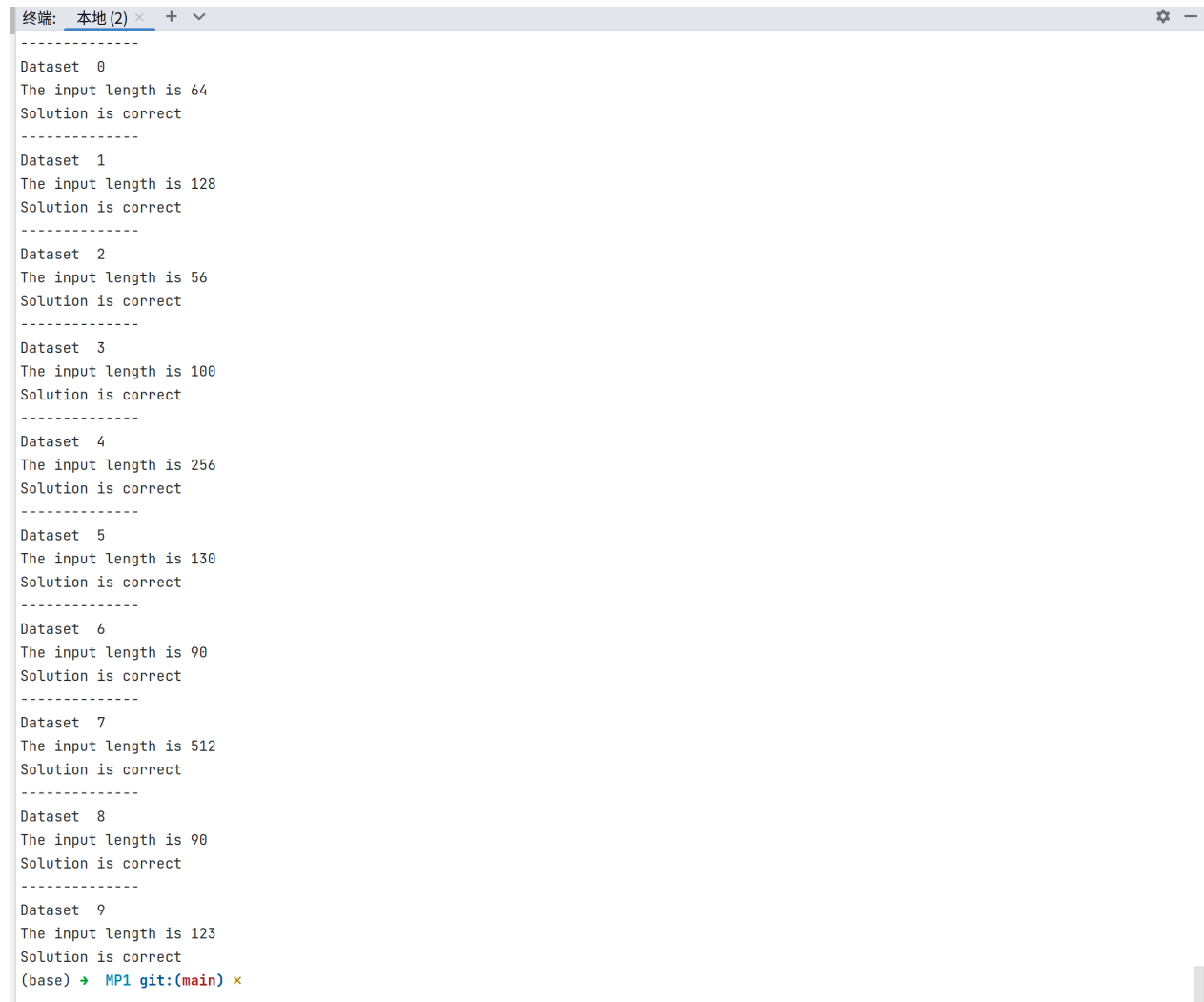
3 Instruction

- You should edit the code in ‘`template.cu`’ to perform the following:
 - Allocate device memory
 - Copy host memory to device
 - Initialize thread block and kernel grid dimensions

- Invoke CUDA kernel
- Copy results from device to host
- Free device memory
- Write the CUDA kernel

Instructions about where to place each part of the code is demarcated by the ‘`//@@`’ comment lines.

实验结果如下 (截图)



```
终端: 本地 (2) × + -
-----
Dataset 0
The input length is 64
Solution is correct
-----
Dataset 1
The input length is 128
Solution is correct
-----
Dataset 2
The input length is 56
Solution is correct
-----
Dataset 3
The input length is 100
Solution is correct
-----
Dataset 4
The input length is 256
Solution is correct
-----
Dataset 5
The input length is 130
Solution is correct
-----
Dataset 6
The input length is 90
Solution is correct
-----
Dataset 7
The input length is 512
Solution is correct
-----
Dataset 8
The input length is 90
Solution is correct
-----
Dataset 9
The input length is 123
Solution is correct
(base) → MP1 git:(main) ×
```

图 1: lab1 实验结果

注意核函数是向量相加