Trabalho 2

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Ferramentas escolhidas

- static analysis tool
  - cppcheck
- Coverage
  - Gcov
- Continuous Integration
  - Travis CI
- Testing for performance
  - Gprof

.travis.yml

```
sudo: true
language: cpp
compiler:
  - gcc
addons:
  apt:
    sources:
    - ubuntu-toolchain-r-test
    packages:
    - g++-6
    - cppcheck
before_install:
  - python --version
install:
- "[ $CXX = g++ ] && export CXX=g++-6 || true"
- sudo pip install gdown
- ./instal.sh
script:
  - cd ./software/tests/math/cos
  - make clean
  - make test
  - cppcheck test.c > cppcheck.log
  - gcov hf_riscv_sim.c >gcov.log
  - gprof ./hf_riscv_sim gmon.out >gprof.log
  - head cppcheck.log -n 200
  - head gcov.log -n 200
  - head gprof.log -n 200
```

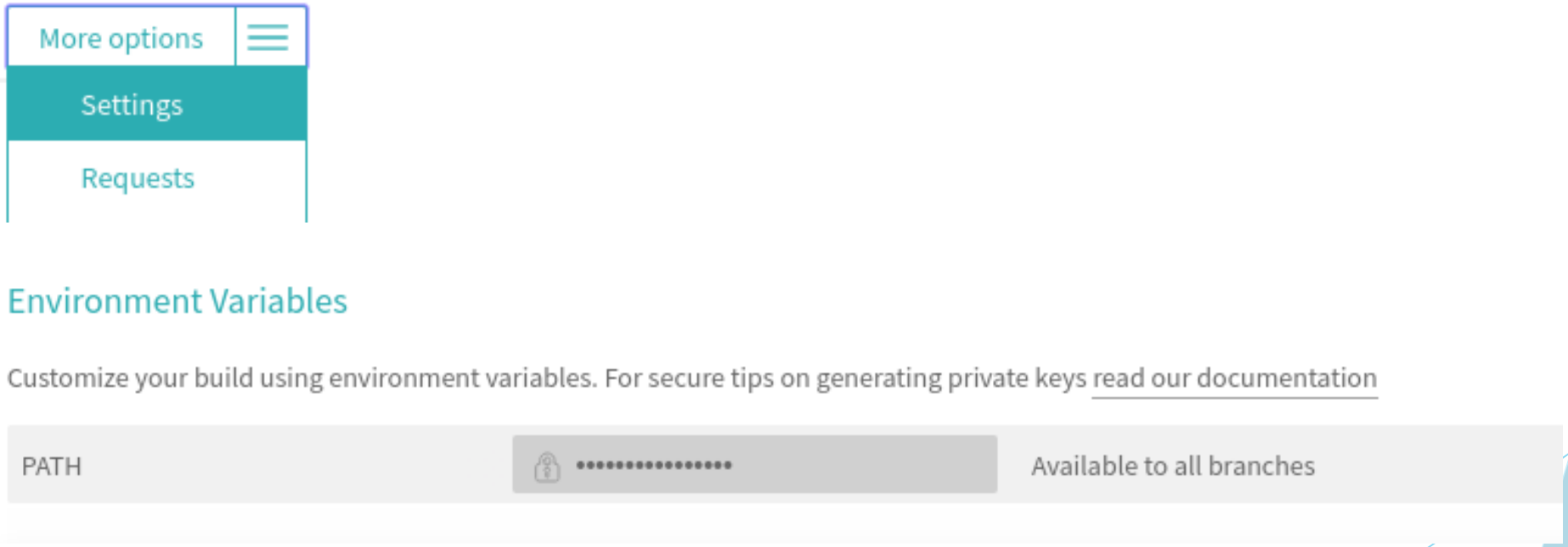
Instalação RiscV

- install.sh

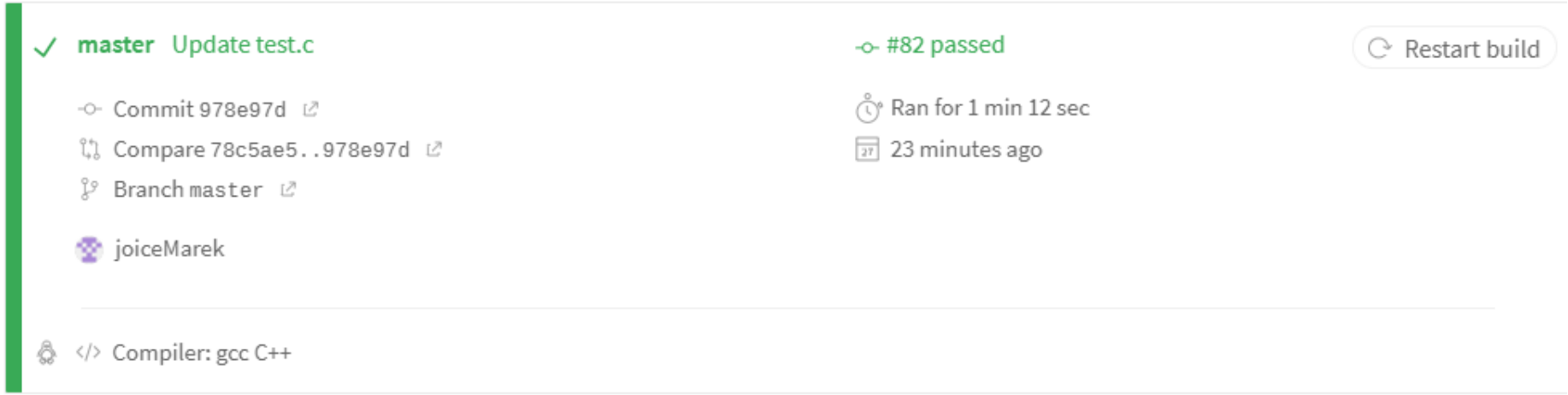
```
#!/bin/bash

cd /home/travis/build/
mkdir RISCV
cd RISCV
gdown 'https://drive.google.com/uc?id=1ntx6Mpor-GWRl3CSiAQ47H8RQOKYeoWJ'
tar xvzf riscv-gcc.tar.gz --strip-components 2
riscv32-unknown-elf-cpp --version
```

Instalação RiscV

- Variável de ambiente

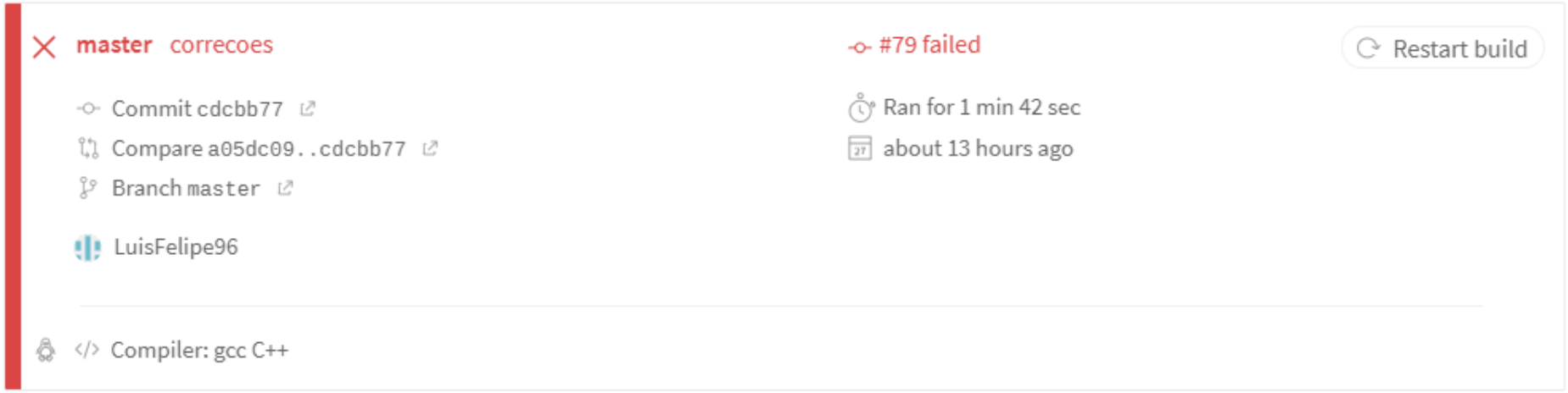


Travis - OK




```
1204 profiling:/home/travis/build/LuisFelipe96/hf-risc-st/software/tests/math/cos/hf_riscv_sim.gcda:Version mismatch - expected
     504* got 408*
1205
1206 end of simulation - 65678 cycles.
1207 The command "make test" exited with 0.
```

Travis - Erro




```
1206 end of simulation - 65663 cycles.
1207 makefile:46: recipe for target 'test' failed
1208 make: *** [test] Error 1
1209 The command "make test" exited with 2.
```

Cppcheck e Gcov

```
1486 The command "gprof ./hf_riscv_sim gmon.out >gprof.log" exited with 0.
1487 $ head cppcheck.log -n 200                                          0.01s
1488 Checking test.c...
1489 The command "head cppcheck.log -n 200" exited with 0.
1490 $ head gcov.log -n 200                                              0.01s
1491 File '/home/travis/build/LuisFelipe96/hf-risc-st/tools/sim/hf_riscv_sim/hf_riscv_sim.c'
1492 Lines executed:52.20% of 295
1493 Creating 'hf_riscv_sim.c.gcov'
1494
```

Gprof

```
granularity: each sample hit covers 2 byte(s) no time propagated

index % time    self  children    called     name
                0.00    0.00    8130/8130        main [19]
[1]      0.0    0.00    0.00    8130         cycle [1]
                0.00    0.00    8130/8130        mem_fetch [2]
                0.00    0.00    1049/1049        mem_read [3]
                0.00    0.00     717/717         mem_write [4]
-----------------------------------------------
                0.00    0.00    8130/8130        cycle [1]
[2]      0.0    0.00    0.00    8130         mem_fetch [2]
-----------------------------------------------
                0.00    0.00    1049/1049        cycle [1]
[3]      0.0    0.00    0.00    1049         mem_read [3]
-----------------------------------------------
                0.00    0.00     717/717         cycle [1]
[4]      0.0    0.00    0.00     717         mem_write [4]
-----------------------------------------------
```