
Homework 0 - Building up Bril Environment

CSIE 5054 - Advanced Compiler Design

National Taiwan University

Total Points: 7

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TA Email: R11922154@ntu.edu.tw, R11944040@ntu.edu.tw, R03922010@ntu.edu.tw

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1 Announcement

1. The homework contains only 1 problem.
2. In case you encounter technical issues with Homework 0, kindly consult online resources initially, as most problems are likely related to your local environment. If challenges persist, reach out to our TAs following these guidelines:
 - Title your email [AC-HW0][Summary-Of-Your-Issue]. Please note that we will **NOT** receive emails in other formats as we have applied filters to our email system.
 - Provide detailed information about your computer, including the operating system.
 - Outline the methods you attempted previously, the resources you consulted, the steps you followed, and the results of your efforts.
 - Note that ambiguous requests, such as attaching screenshots without proper descriptions, will not be answered. **Such emailing will lower your priority.**
 - For guidance on how to formulate effective technical inquiries, please refer to How To Ask Questions The Smart Way. This resource can help you structure your questions to get quicker, more precise responses from the TAs.
3. **Attention students outside of the EECS department:** Please complete Homework 0 as soon as possible in order to receive the authorization code for the course enrollment.

2 Preliminaries

- Git
- GitHub

3 Problem 1

This problem is designed to introduce you to the Bril (Big Red Intermediate Language) project and to help you set up your development environment. This setup will be utilized in future homework

assignments.

Bril is a simple instruction-based intermediate representation (IR) used extensively throughout our course. Created specifically for educational purposes in CS6120, Bril's simplicity and its JSON-based canonical representation make it an excellent tool for learning compiler construction, particularly focusing on optimizations.

3.1 Task Details

1. Click this link to create your forked assignment repository.
2. Clone your forked repository recursively to ensure you include the Bril submodule. Use the command below in your local environment:

```
1 git clone --recursive <url-of-your-forked-repo>
```

3. Carefully read and follow the instructions in the Bril README. This guide contains essential information on building the Bril toolchain, crucial for the successful completion of this homework.
4. Navigate to the homework directory using:

```
1 cd <homework-directory>
```

5. Complete the `install_bril.sh` script to prepare your development environment.
6. Execute the script by running:

```
1 bash install_bril.sh
```

7. Ensure the installation was successful by running a series of tests with the Bril toolchain, including `bril2json`, `brili`, and `bril2txt`. These tests will confirm that all tools are properly installed and functioning.

3.2 Submission Instructions

1. Test the `install_bril.sh` script locally to ensure it works as expected.
2. Commit and push your changes to your forked repository using the following commands:

```
1 git add install_bril.sh
2 git commit -m "Completed Homework 0"
3 git push origin main
```

3. Check the Git Action section and click one of the workflows, and you will see Figure 1 and Figure 2.
4. Check the workflow information, make sure the Autograding Reporter section passes in Figure 3. The result resembles Figure 4.

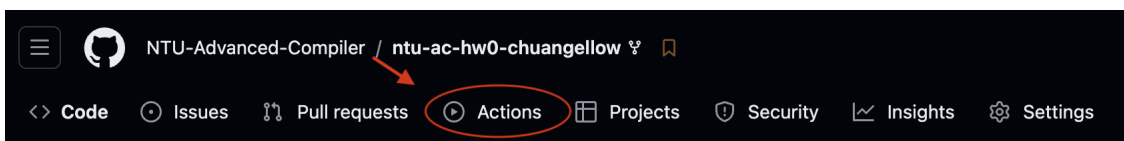


Figure 1: Check Git Action Section

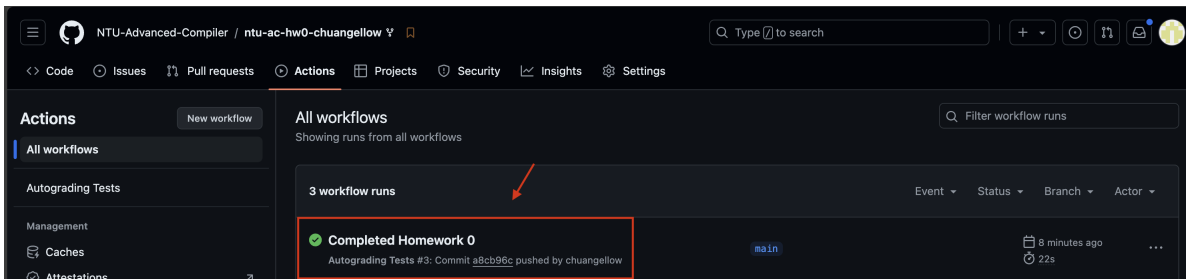


Figure 2: Check the Latest Workflow

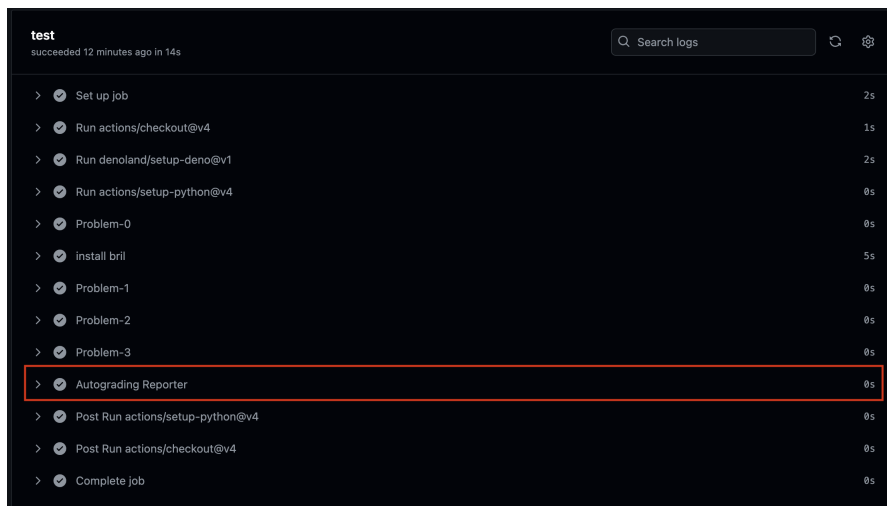


Figure 3: Check the Autograding Reporter

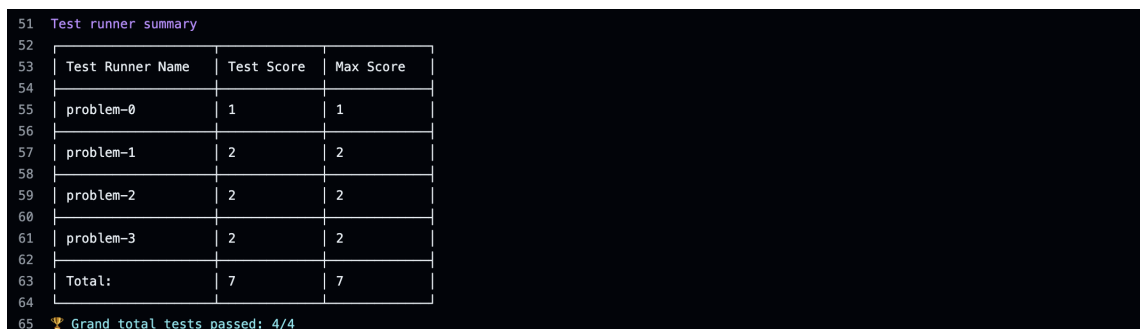


Figure 4: Grading Result