

Compilers 2023

SE3355 2023

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Schedule	
General Information	Description Write a type-checking phase for your compiler, a module semant describes this phase.
Labs	Related files for this lab are: <ul style="list-style-type: none"> • src/tiger/semant/semant.* The SemAnalyze function implementations of all AST classes • src/tiger/semant/type.* A series of Type classes describe types in tiger language. • src/tiger/env/env.* The EnvEntry classes which help compiler store the information of variables&functions when doing type checking.
Prior Materials	

To finish this lab, you will only need to fill in the file *semant.cc*. You can change the declarations of function **SemAnalyze** or modify any file as you want.

Notice: Before you start this lab, you should carefully read the chapter 5 of the textbook. And if you have any question about this lab, feel free to contact teaching assistants.

Important Notes

You should use member *errmsg_* in ProgSem to report semantic errors you detect.

Environment

You will use the same code framework that you had set up when you worked on lab3 and use the code you written in lab3. What you need to do now is to pull the latest update of the code framework. You may have to do some code merging jobs. If you have any difficulties in merging codes, you can ask TAs in our Wechat group.

```
shell% git fetch upstream
shell% git checkout -b lab4 upstream/lab4
shell% git push -u origin
shell% git merge lab3
```

You may have to do some code merging jobs here.

After merging, you are supposed to push your update to your remote repo

```
shell% git add files
shell% git commit -m "[lab4] merge lab3"
shell% git push origin lab4
```

Now you can check your pipeline on gitlab, if you successfully merge, you should see your previous labs passed.

Grade Test

The lab environment contains a grading script named as **grade.sh**, you can use it to evaluate your code, and that's how we grade your code, too. If you pass all the tests, the script will print a successful hint, otherwise, it will output some error messages. You can execute the script with the following commands.

```
shell% make gradelab4
shell% ...
shell% [^_^]: Pass Lab4 #If you pass all the tests, you will see these messages.
shell% TOTAL SCORE: 100
```

Handin

The deadline of this lab is on **Tuesday 12:00 AT NOON, Nov 7, 2023**, and if you miss the deadline, points will be deducted based on the number of days you are late!

After you have passed the grade test, you need first commit your modification, then push it to your remote repository on gitlab. You can use the following commands to finish this step.

```
shell% git add .  
shell% git commit -m "[lab4] finish lab4"  
shell% git push origin lab4
```

In the end, you need to check your pipeline on gitlab. Make sure you see all the test passed, otherwise you may not get your score.

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Questions or comments regarding *Compilers* course? Send e-mail to the course Staffs or TAs.

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