

# 오픈소스SW와 Python

## Homework #5

## hw5 branch 생성 후 이동

```
User@DESKTOP-1F5U0K1 MINGW64 /d
$ cd /d/github/cau_oss_python_03

User@DESKTOP-1F5U0K1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git branch -l
* main

User@DESKTOP-1F5U0K1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git branch hw5

User@DESKTOP-1F5U0K1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git branch -l
hw5
* main

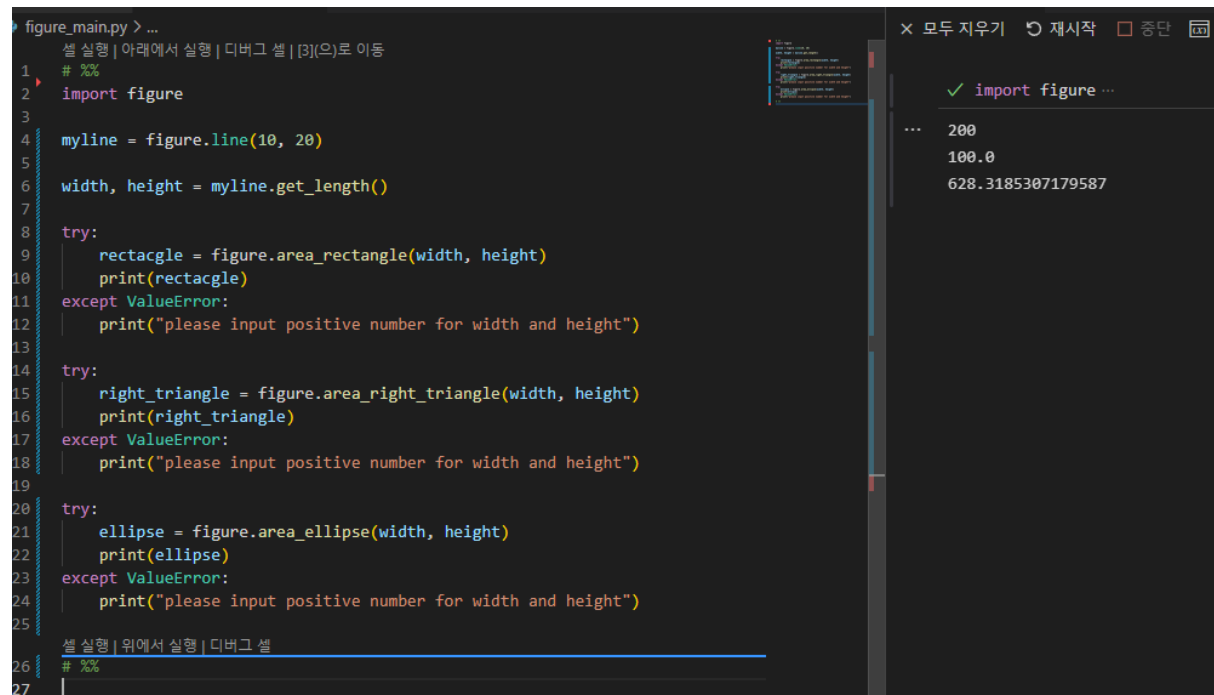
User@DESKTOP-1F5U0K1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git switch hw5
Switched to branch 'hw5'
M   figure_main.py

User@DESKTOP-1F5U0K1 MINGW64 /d/github/cau_oss_python_03 (hw5)
$ git branch -l
* hw5
  main
```

## figure.py 파일 수정

```
figure.py > area_right_triangle
1  """
2  그림과 관련된 함수 및 클래스를 제공하는 모듈입니다.
3  line class를 통해 선의 길이를 설정 및 참조를 수행하며
4  외부에서 접근 불가능한 __width와 __height가 있으면,
5  변수를 수정하고 접근하기 위해
6  set_length와 get_length 메소드를 제공합니다.
7  """
8
9  import math
10
11  class line:
12      __width = 0
13      __height = 0
14      def __init__(self, width, height):
15          """초기 width와 height 값을 입력합니다."""
16          self.__width = width
17          self.__height = height
18
19      def set_length(self, width, height):
20          """선의 길이를 수정합니다."""
21          self.__width = width
22          self.__height = height
23
24      def get_length(self):
25          """저장된 선의 길이를 반환합니다."""
26          return self.__width, self.__height
27
28  def area_rectangle(width, height):
29      """길이를 입력받아 직사각형의 넓이를 구하는 함수입니다."""
30      if width <= 0 or height <= 0: raise ValueError
31      return width * height
32
33  def area_ellipse(width, height):
34      """길이를 입력받아 타원의 넓이를 구하는 함수입니다."""
35      if width <= 0 or height <= 0: raise ValueError
36      return width * height * math.pi
37
38  def area_right_triangle(width, height):
39      """길이를 입력받아 직삼각형의 넓이를 구하는 함수입니다."""
40      if width <= 0 or height <= 0: raise ValueError
41      return width * height / 2
```

## figure\_main.py 파일 수정 및 실행



The screenshot shows a code editor with a dark theme. The main window displays the `figure_main.py` file. The code starts with a comment `# %%`, followed by `import figure`. It then creates a line object `myline = figure.line(10, 20)` and retrieves its dimensions `width, height = myline.get_length()`. Three try-except blocks follow, each calling a function from the `figure` module: `area_rectangle`, `area_right_triangle`, and `area_ellipse`. Each function call is followed by `print` and an exception handler for `ValueError` that prints a message: "please input positive number for width and height". The code ends with another `# %%` comment. On the right side, there is a panel showing the execution output. It starts with a green checkmark and the text `import figure ...`. Below this, it shows the output of the `print` statements: `200`, `100.0`, and `628.3185307179587`.

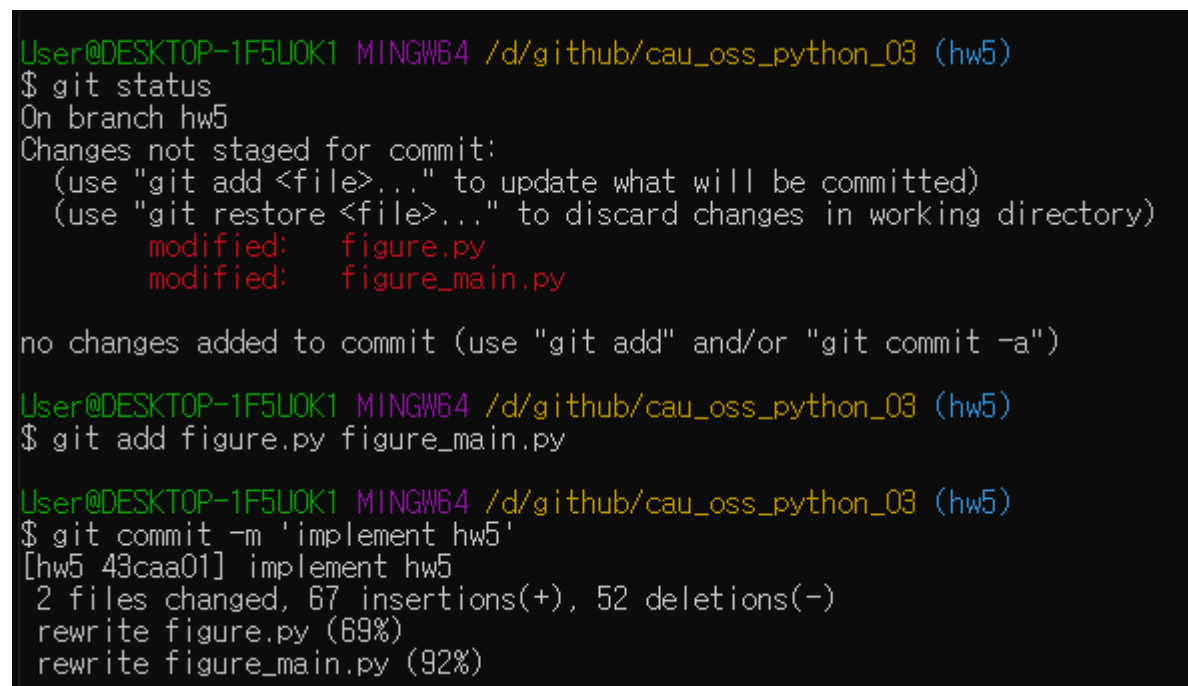
```
figure_main.py > ...
셀 실행 | 아래에서 실행 | 디버그 셀 | [3](으)로 이동
1 # %%
2 import figure
3
4 myline = figure.line(10, 20)
5
6 width, height = myline.get_length()
7
8 try:
9     rectacgle = figure.area_rectangle(width, height)
10    print(rectacgle)
11 except ValueError:
12    print("please input positive number for width and height")
13
14 try:
15     right_triangle = figure.area_right_triangle(width, height)
16    print(right_triangle)
17 except ValueError:
18    print("please input positive number for width and height")
19
20 try:
21     ellipse = figure.area_ellipse(width, height)
22    print(ellipse)
23 except ValueError:
24    print("please input positive number for width and height")
25
26 셀 실행 | 위에서 실행 | 디버그 셀
27 # %%
```

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✓ import figure ...

... 200  
100.0  
628.3185307179587

## hw5 commit



The screenshot shows a terminal window with a dark background. The user is in a directory `/d/github/cau_oss_python_03` on a branch named `hw5`. They run `git status`, which shows that `figure.py` and `figure_main.py` are modified but not staged. They then run `git add figure.py figure_main.py` to stage the changes. Finally, they run `git commit -m 'implement hw5'`, which creates a new commit with hash `43caa01`. The commit message is `implement hw5`. The terminal shows that 2 files were changed, with 67 insertions and 52 deletions. The changes are summarized as `rewrite figure.py (69%)` and `rewrite figure_main.py (92%)`.

```
User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (hw5)
$ git status
On branch hw5
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   figure.py
        modified:   figure_main.py

no changes added to commit (use "git add" and/or "git commit -a")

User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (hw5)
$ git add figure.py figure_main.py

User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (hw5)
$ git commit -m 'implement hw5'
[hw5 43caa01] implement hw5
2 files changed, 67 insertions(+), 52 deletions(-)
rewrite figure.py (69%)
rewrite figure_main.py (92%)
```

## merge

```
User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (hw5)
$ git switch main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git branch -l
  hw5
* main

User@DESKTOP-1F5UOK1 MINGW64 /d/github/cau_oss_python_03 (main)
$ git merge hw5
Updating af8343c..43caa01
Fast-forward
 figure.py      | 53 ++++++++++++++++++++++++++++++++++++++-----
 figure_main.py | 30 ++++++++-----
 2 files changed, 49 insertions(+), 34 deletions(-)
```