

## IT-314 Software Engineering

### Lab - 5 Static Analysis

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Link to the repository : [https://github.com/masterjinkal/Lab-5\\_202001166](https://github.com/masterjinkal/Lab-5_202001166)

#### Static analysis using mypy tool

To install mypy : `python -m pip install mypy`

Command for finding errors in the file : `python -m mypy <FILE_PATH>`

#### 1. Instal mypy

```
C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Python 3.10>python -m pip install mypy
Defaulting to user installation because normal site-packages is not writeable
Collecting mypy
  Downloading mypy-1.1.1-cp310-cp310-win_amd64.whl (8.9 MB)
    .....: 0.0/0.0 MB 17.7 kB/s eta 0:00:00
Requirement already satisfied: tomli>=1.1.0 in c:\users\student\appdata\roaming\python\python310\site-packages (from mypy) (2.0.1)
Collecting mypy_extensions-1.0.0
  Downloading mypy_extensions-1.0.0-py3-none-any.whl (4.7 kB)
Collecting typing_extensions-3.10
  Downloading typing_extensions-4.5.0-py3-none-any.whl (27 kB)
Installing collected packages: typing_extensions, mypy_extensions, mypy
WARNING: The scripts dmpyc.exe, mypyc.exe, stubgen.exe and stubtest.exe are installed in 'C:\Users\student\AppData\Roaming\Python\Python310\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed mypy-1.1.1 mypy_extensions-1.0.0 typing_extensions-4.5.0

[notice] A new release of pip available: 22.3.1 -> 23.0.1
[notice] To update, run: python.exe -m pip install --upgrade pip
C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Python 3.10>
```

#### 2. Find errors using the `python -m mypy <FILE_PATH>` command

Repo: library-managment-system-python

```
C:\Users\student\library-management-system-python->python -m mypy admin.py
Success: no issues found in 1 source file

C:\Users\student\library-management-system-python->
```

As seen there are no errors in the file chosen

Repository: Student-Management-System

layout/site\_script.js

```
C:\Users\student>cd Student-Management-System  
  
C:\Users\student\Student-Management-System>python -m mypy layout/site_script.js  
layout\site_script.js:1: error: invalid syntax [syntax]  
Found 1 error in 1 file (errors prevented further checking)  
  
C:\Users\student\Student-Management-System>
```

Here, there is syntax error in the file and the error prevents further checking.

- login.php

```
C:\Users\student\Student-Management-System>python -m mypy page/login/login.php  
page\login\login.php:81: error: invalid decimal literal [syntax]  
Found 1 error in 1 file (errors prevented further checking)  
  
C:\Users\student\Student-Management-System>
```

Here, there is the error of decimal literal in login.php

- controller.js

```
C:\Users\student\Student-Management-System>python -m mypy student/controller/controller.js  
student\controller\controller.js:6: error: invalid syntax [syntax]  
Found 1 error in 1 file (errors prevented further checking)  
  
C:\Users\student\Student-Management-System>_
```

- connect.php

```
C:\Users\student\Student-Management-System>python -m mypy config/connect.php  
config\connect.php:2: error: invalid syntax [syntax]  
Found 1 error in 1 file (errors prevented further checking)  
  
C:\Users\student\Student-Management-System>
```