IT314 - Software Engineering

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Lab : 05

Static Analysis:
Static analysis is a method of examining the source code of a software program without executing it. Static analysis can help detect errors, bugs, vulnerabilities, and other quality issues in the code. Static analysis tools can perform various tasks such as checking syntax, style,logic, data flow, control flow, and security. Static analysis can improve the reliability,performance, and maintainability of software by identifying and correcting defects early in the development process.

Static Analysis Tools:
Static analysis tools are software tools that analyze the source code of a program without executing it. They can help developers find and fix errors, bugs, vulnerabilities, code smells, and other quality issues in their code. Static analysis tools can also measure various metrics of the code, such as complexity, readability, maintainability, test coverage, and documentation. Static analysis tools can be integrated into the development process as part of the code editor, the version control system, or the continuous integration pipeline. Some examples of static analysis tools are SonarQube, PMD, ESLint, and Pylint.

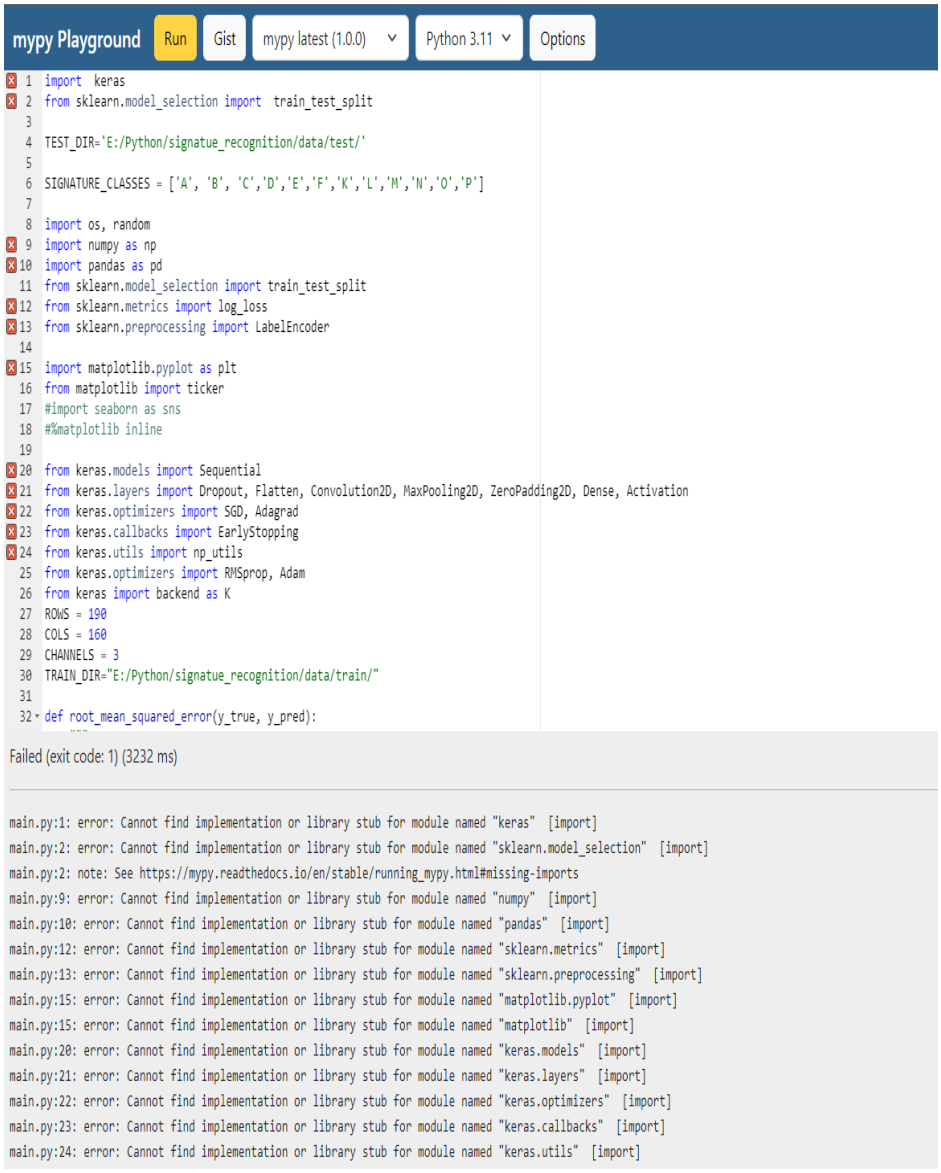
Using Mypy

At online platform [mypy-playground]

1)
https://github.com/Kalebu/Website-blocker-python/blob/master/app.py

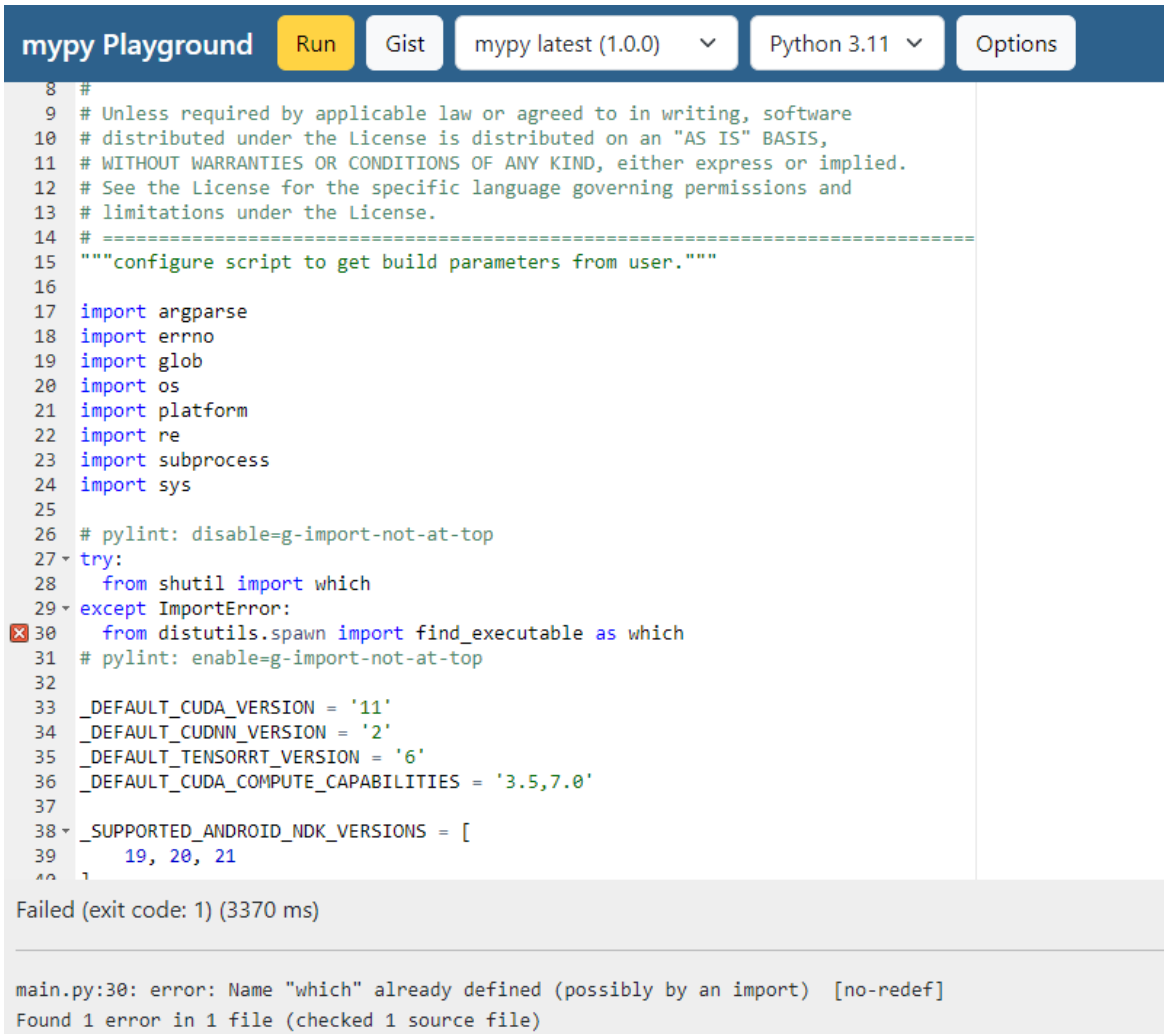
Error : Invalid syntax

2)
https://github.com/ayushreal/Signature-recognition/blob/master/signatue_recognition.py



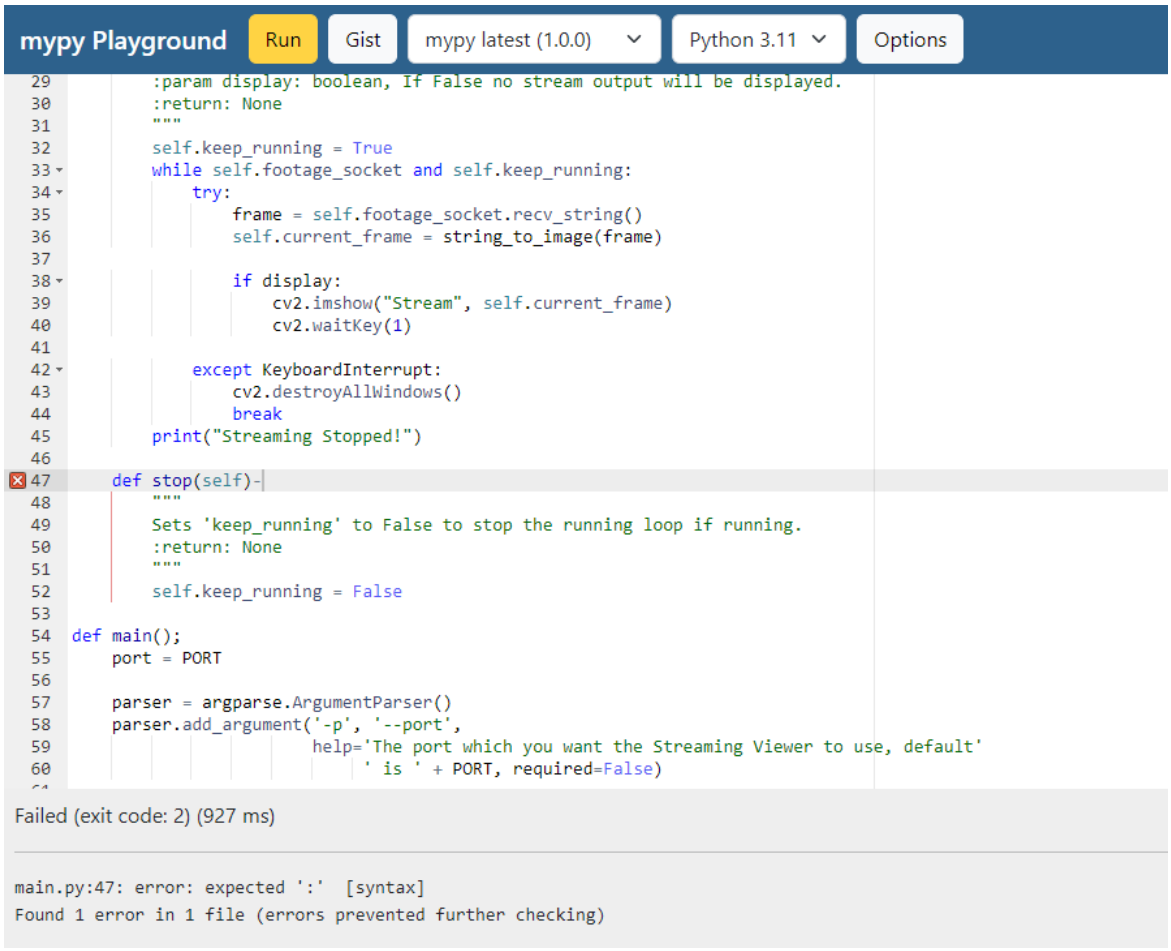
Error : import errors , which can be resolved by importing files

3)
https://github.com/tensorflow/tensorflow/blob/master/configure.py



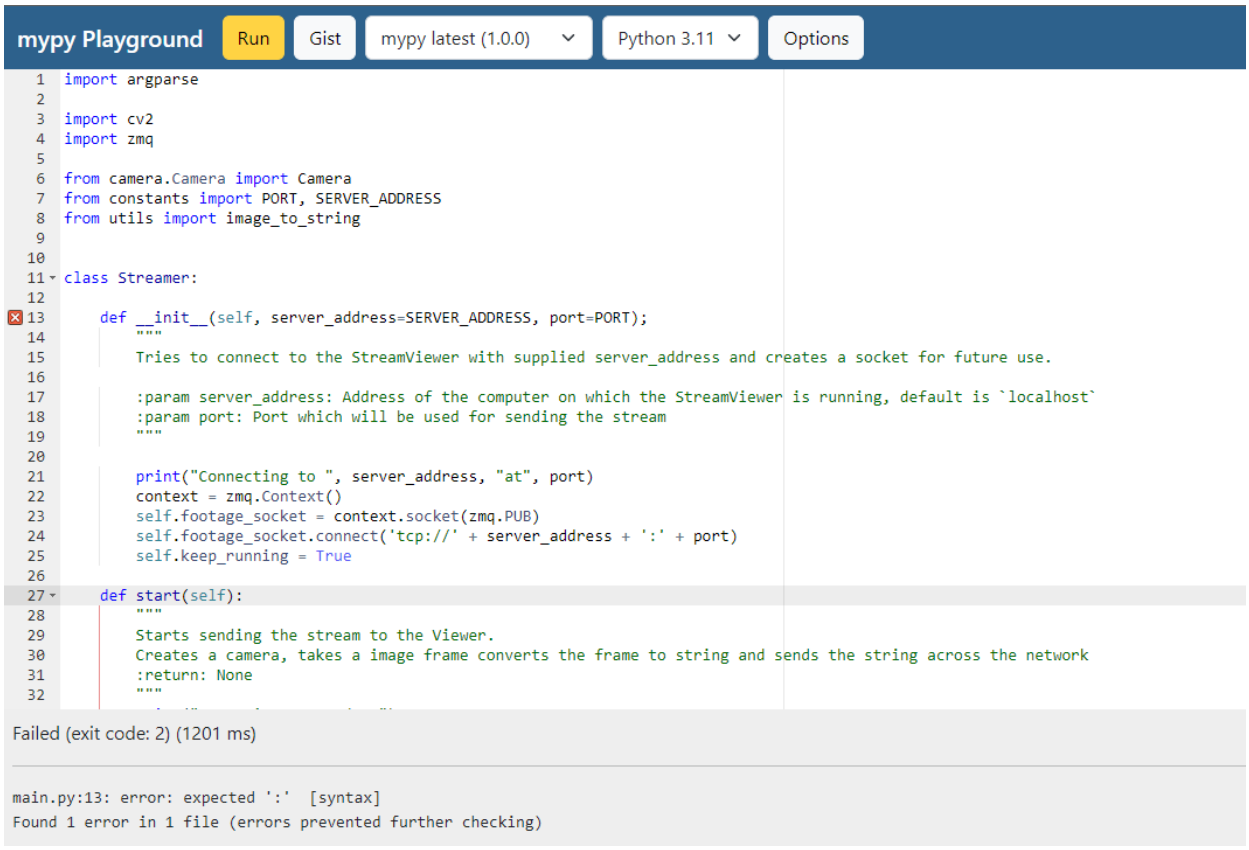
Error : already defined name used

4)
https://github.com/CT83/SmoothStream/blob/master/StreamViewer.py



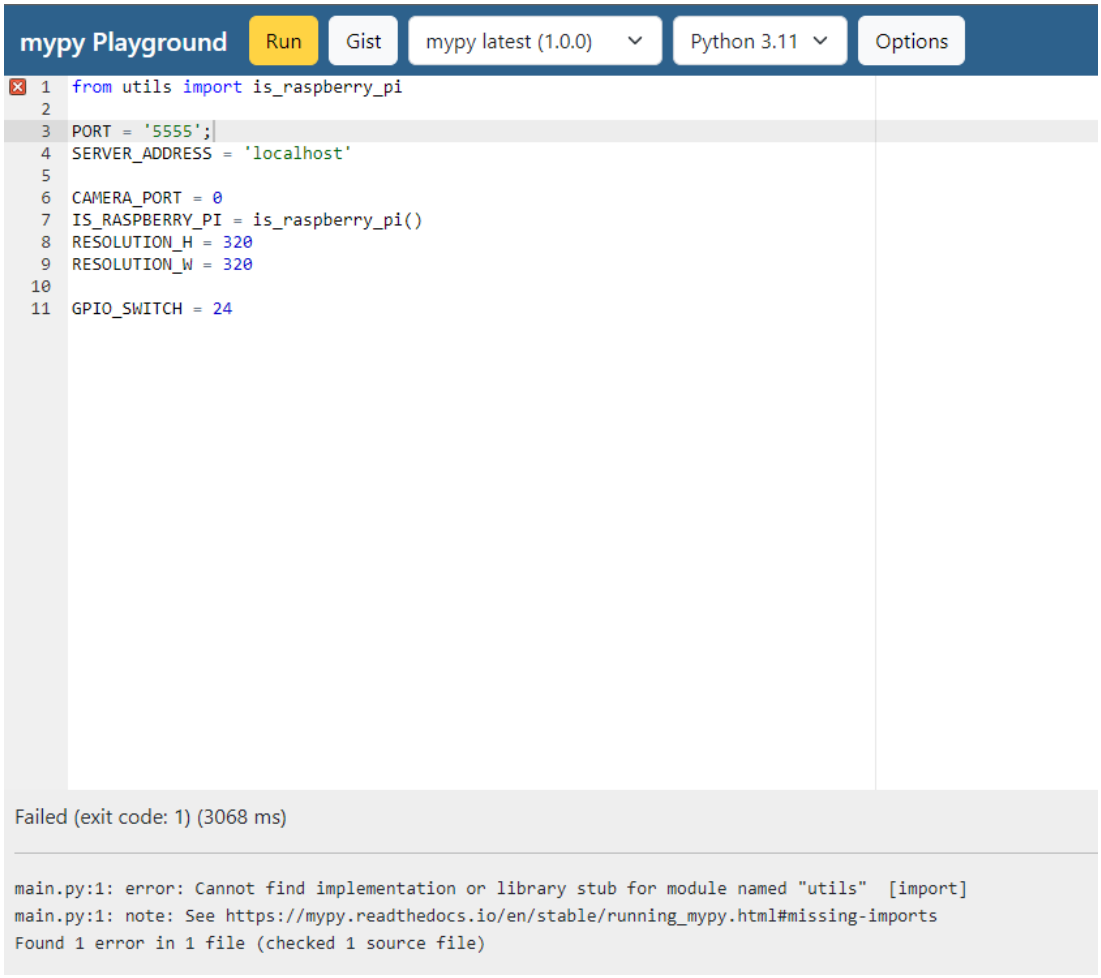
Error : syntax error , **expected : instead of ;**

5)
https://github.com/CT83/SmoothStream/blob/master/Streamer.py



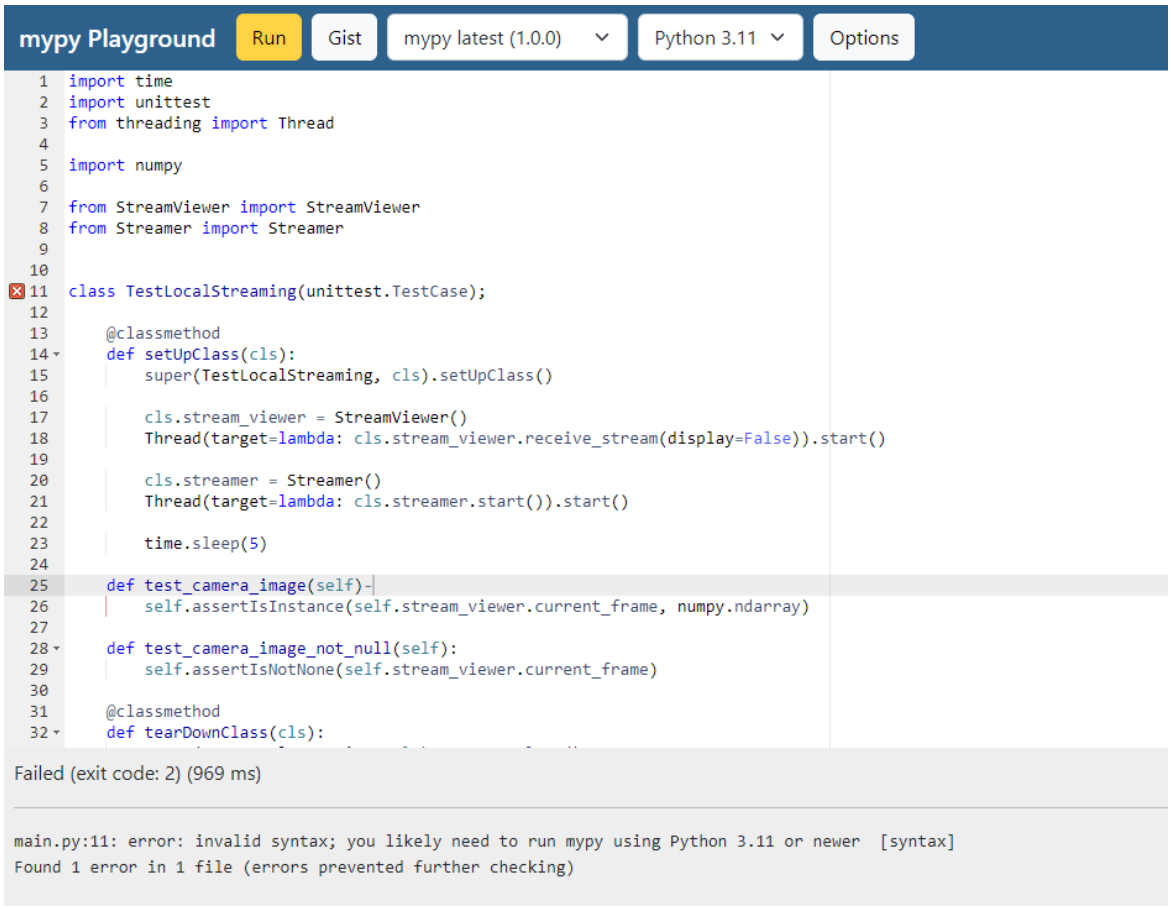
Error : Syntax error near 13th line

6)
https://github.com/CT83/SmoothStream/blob/master/constants.py



Error : at begging import file was not provided

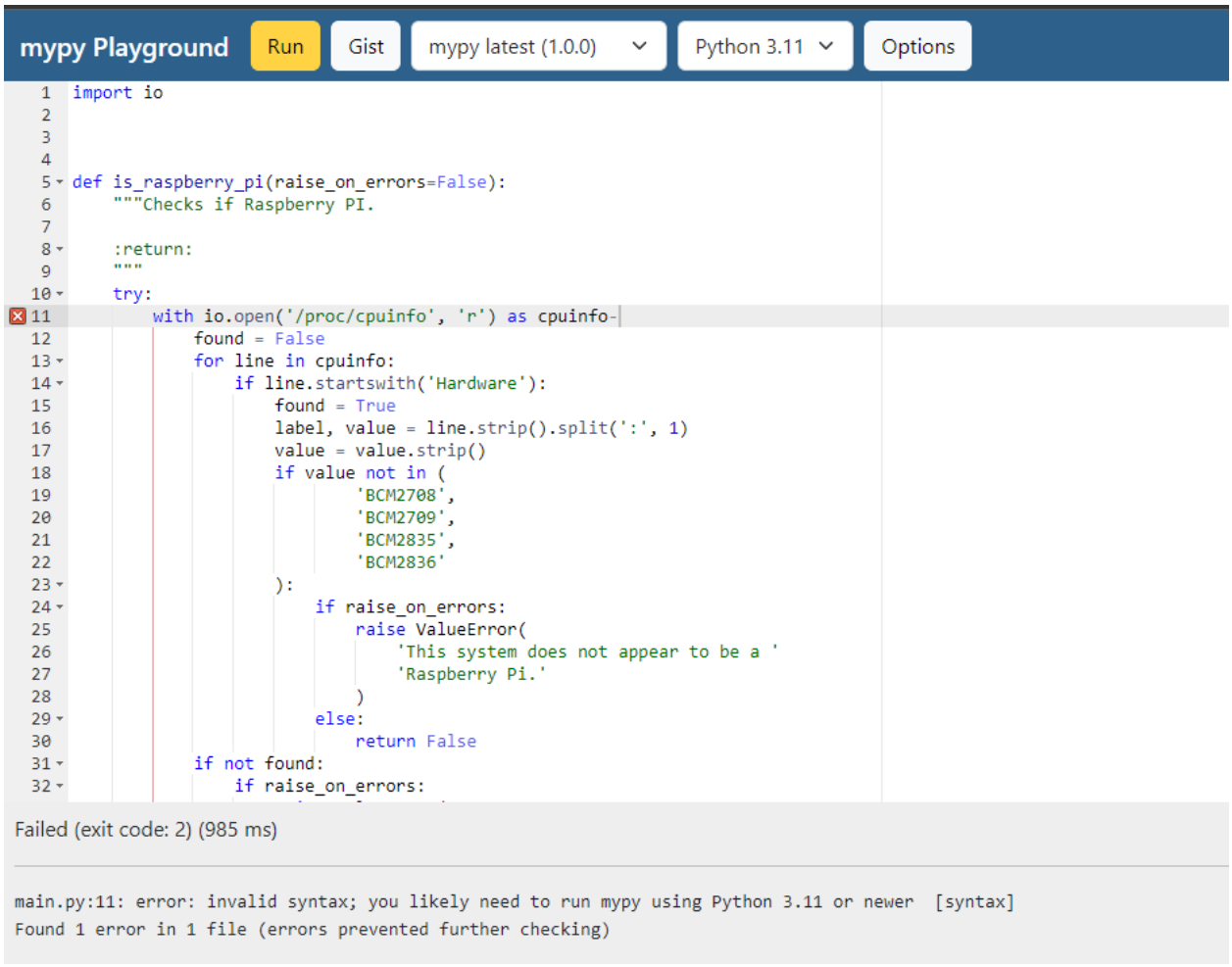
7)
https://github.com/CT83/SmoothStream/blob/master/test_local_streaming.py



Error : Near 11th line **used ; instead of :**

8)

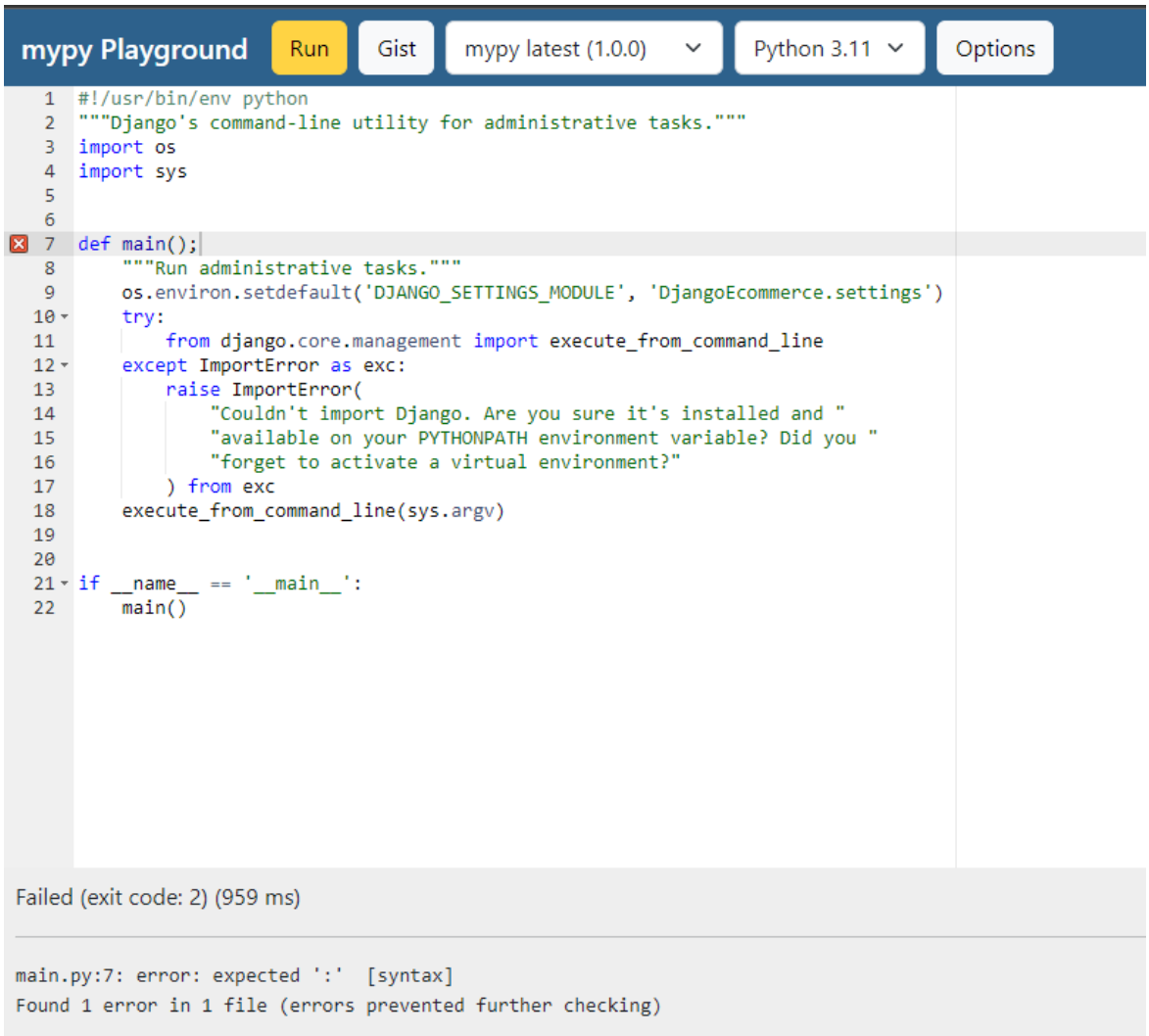
https://github.com/CT83/SmoothStream/blob/master/utils.py



Error : Invalid syntax at 11th line

9)

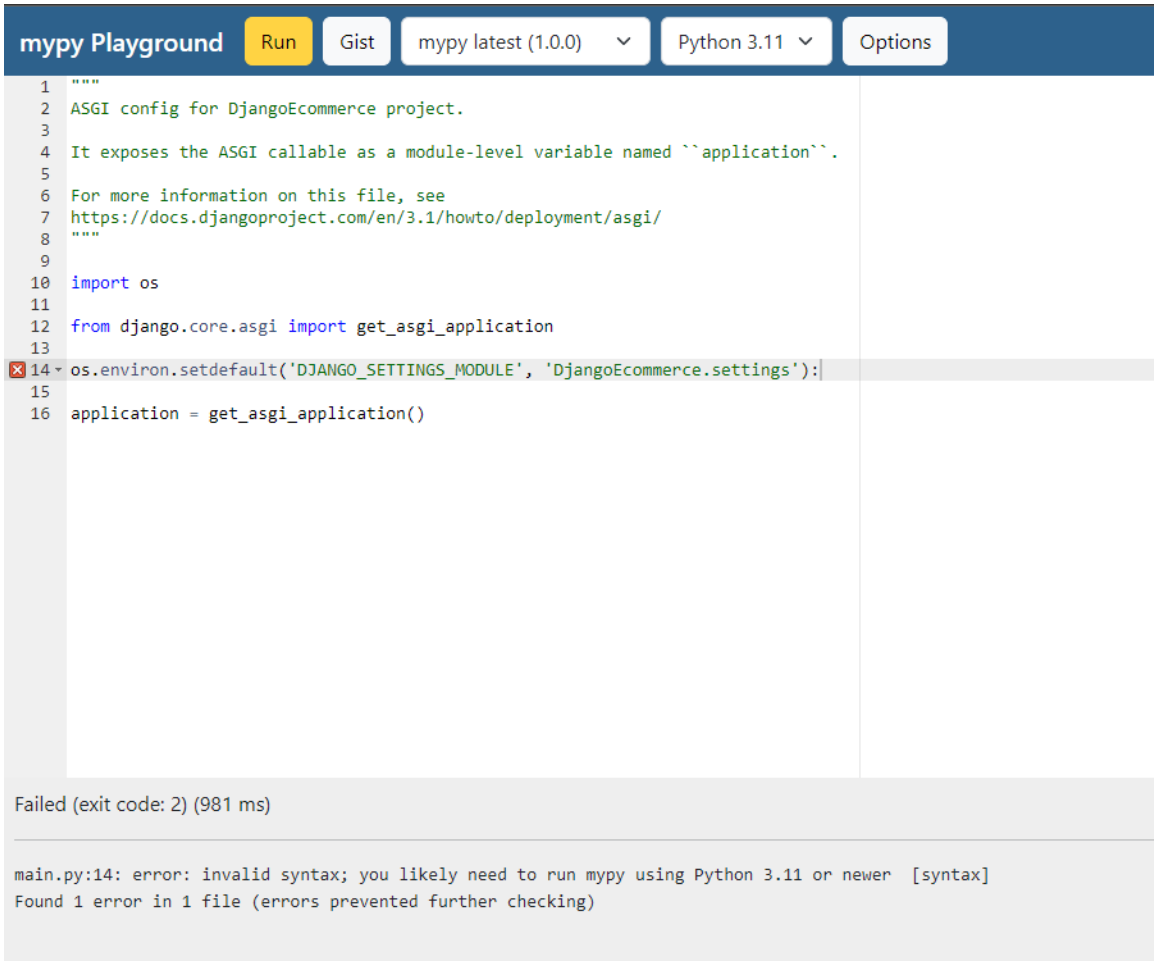
https://github.com/hackstarsj/django-ecommerce-project-amazon-clone/blob/master/manage.py



Error : Syntax error near main() , **used ; instead of :**

10)

https://github.com/hackstarsj/django-ecommerce-project-amazon-clone/blob/master/DjangoEcommerce/asgi.py



Error : Unexpected symbol ; at line 14

Using vs code also we can analyze the code

Link : https://github.com/Kalebu/Website-blocker-python/blob/master/app.py

app.py

app.py > ...

```
14  # different hosts for different os
15  Linux_host = "/etc/hosts"
16  Window_host = r"C:\Windows\System32\drivers\etc\hosts"
17  default_hoster = Linux_host # if you are on windows then change it to Window_host
18  redirect = "127.0.0.1"
19
20
21  def block_websites(start_hour, end_hour):
22      while True:
23          if (
24              dt(dt.now().year, dt.now().month, dt.now().day, start_hour)
25              < dt.now()
26              < dt(dt.now().year, dt.now().month, dt.now().day, end_hour)
27          ):
28              print("Do the work ....")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```
************* Module app
app.py:47:0: C0304: Final newline missing (missing-final-newline)
app.py:1:0: C0114: Missing module docstring (missing-module-docstring)
app.py:15:0: C0103: Constant name "Linux_host" doesn't conform to UPPER_CASE naming style (invalid-name)
app.py:16:0: C0103: Constant name "Window_host" doesn't conform to UPPER_CASE naming style (invalid-name)
app.py:17:0: C0103: Constant name "default_hoster" doesn't conform to UPPER_CASE naming style (invalid-name)
app.py:18:0: C0103: Constant name "redirect" doesn't conform to UPPER_CASE naming style (invalid-name)
app.py:21:0: C0116: Missing function or method docstring (missing-function-docstring)
app.py:29:17: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
app.py:35:17: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

-------------------------------------------------------------------
Your code has been rated at 6.67/10 (previous run: 6.67/10, +0.00)


C:\Users\student\Downloads\Website-blocker-python-master\Website-blocker-python-master>
```