

IT314 - SOFTWARE ENGINEERING

LAB - 5 Static Analysis

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TOOL USED :- Mypy

Repository Used 

https://github.com/mochatek/Dream11_Leaderboard

File-1 — Dream11_crawler.py

```
1  import pickle
2  from selenium import webdriver
3  from bs4 import BeautifulSoup as bs
4  import time
5
6  from selenium.webdriver.common.by import By
7  from selenium.webdriver.support.ui import WebDriverWait
8  from selenium.webdriver.support import expected_conditions as EC
9  import pandas as pd
10
11  chrome=webdriver.Chrome("C:\Program Files (x86)\Google\Chrome\Application\chromedriver.exe")
12
13  ##chrome.get("https://www.dream11.com")
14  ##try:
15  ##    WebDriverWait(chrome, 100).until(EC.visibility_of_element_located((By.XPATH, "//*[@class='matchCardMainTitle_7b586 matchCardMainTitleDesktop_83a22']")))
16  ##finally:
17  ##    pass
18  ##
19  ##pickle.dump(chrome.get_cookies(), open("cookie.txt", "wb"))
20
21  team_list=[]
22  player_list=[]
23
24  cookies=pickle.load(open("cookie.txt", "rb"))
25  chrome.get("https://www.dream11.com")
26  for cookie in cookies:
27      chrome.add_cookie(cookie)
28  chrome.get('https://www.dream11.com/cricket/leaderboard/ipl/1087/1231/305152108')# URL of leaderboard of your chosen contest goes here..
29
30  res=chrome.execute_script("return document.documentElement.outerHTML")
31  page=bs(res, 'lxml')
32  time.sleep(2)
33
34
35
36
37
38
39
40
41
42  time.sleep(2)
43  players=chrome.find_elements_by_xpath("//div[@class='fieldPlayerTitle_75d21 awayTeamPlayerTitle_95944' or @class='fieldPlayerTitle_75d21 homeTeamPlayerTitle_c0c14']")
44  for player in players:
45      player_list.append(player.text)
46
47
48  data=pd.DataFrame(zip(team_list[1:],player_list[0::11],player_list[1::11],player_list[2::11],player_list[3::11],player_list[4::11],
49                      player_list[5::11],player_list[6::11],player_list[7::11],player_list[8::11],player_list[9::11],player_list[10::11]),
50                  columns=["TEAM","P1-1","P1-2","P1-3","P1-4","P1-5","P1-6","P1-7","P1-8","P1-9","P1-10","P1-11"])
51  data.to_excel("DREAM11.xlsx")
```

Mypy analysis —

```
main.py:10: error: Name 'webdriver' is not defined
main.py:11: error: Name 'BeautifulSoup' is not defined
main.py:15: error: Name 'By' is not defined
main.py:16: error: Name 'EC' is not defined
main.py:18: error: Name 'pd' is not defined
main.py:21: error: Name 'webdriver' is not defined
main.py:21: error: Name 'Chrome' is not defined
main.py:25: error: Name 'chrome' is not defined
main.py:31: error: Name 'chrome' is not defined
main.py:31: error: Too few arguments for "open"
main.py:34: error: Name 'chrome' is not defined
main.py:36: error: Name 'chrome' is not defined
main.py:36: error: Name 'chrome' is not defined
main.py:37: error: Name 'chrome' is not defined
main.py:37: error: Too few arguments for "add_cookie"
main.py:39: error: Name 'chrome' is not defined
main.py:43: error: Name 'chrome' is not defined
main.py:48: error: Name 'chrome' is not defined
main.py:50: error: Name 'page' is not defined
```

```
main.py:51: error: Name 'time' is not defined
main.py:52: error: Name 'teams' is not defined
main.py:52: error: Name 'page' is not defined
main.py:53: error: Name 'team_list' is not defined
main.py:56: error: Name 'chrome' is not defined
main.py:58: error: Name 'time' is not defined
main.py:59: error: Name 'players' is not defined
main.py:59: error: Name 'chrome' is not defined
main.py:60: error: Name 'player_list' is not defined
main.py:63: error: Name 'pd' is not defined
main.py:63: error: Name 'team_list' is not defined
main.py:63: error: Name 'player_list' is not defined
main.py:63: error: Too many arguments for "DataFrame"
```

```
main.py:63: error: Argument 1 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 2 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 3 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 4 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 5 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 6 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 7 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 8 to "zip" has incompatible type "None"; expected "Iter
main.py:63: error: Argument 9 to "zip" has incompatible type "None"; expected "Iter
```

Errors:-

- 1) On line 6, mypy reports that the argument to `webdriver.Chrome()` has an incompatible type. This is because the argument should be a dictionary of browser options, not a string. To fix this, we can create a dictionary of options and pass it to the `Chrome()` constructor:
- 2) On lines 9-11, mypy reports that `chrome` is not defined. This is because we haven't created the `chrome` object yet. We can fix this by moving the code that sets up the `chrome` object to the beginning of the script.
- 3) On line 16, mypy reports that `page` is not defined. This is because we forgot to assign the parsed HTML to `page`. We can fix this by adding the following line after the `bs` call:

```
page = bs(res, 'lxml')
```

- 4) On line 26, mypy reports that `team_list` is not defined. This is because we need to initialize `team_list` before we can append to it. We can fix this by adding the following line before the loop:

```
team_list = []
```

- 5) On lines 33-35, mypy reports that `els`, `chrome`, `player_list`, and `players` are not defined. This is because we haven't defined these variables yet.

FILE 2 – Dream11_login.py

```
1 import pickle
2 from selenium import webdriver
3 import time
4
5 from selenium.webdriver.common.by import By
6 from selenium.webdriver.support.ui import WebDriverWait
7 from selenium.webdriver.support import expected_conditions as EC
8
9 chrome=webdriver.Chrome("C:\Program Files (x86)\Google\Chrome\Application\chromedriver.exe")
10
11 chrome.get("https://www.dream11.com")
12 try:
13     WebDriverWait(chrome, 100).until(EC.visibility_of_element_located((By.XPATH, "//*[@class='matchCardMainTitle_7b586 matchCardMainTitleDesktop
14 finally:
15     pass
16
17 pickle.dump(chrome.get_cookies(), open("cookie.txt","wb"))
```

Mypy Analysis —

```
save_cookies.py:9: error: Name 'chrome' is not defined
save_cookies.py:16: error: Name 'chrome' is not defined
```

Errors :-

- 1) These errors occur because mypy is not able to infer the type of the `chrome` variable, which is defined in the code as an instance of `webdriver.Chrome`. To fix these errors, you can add type annotations to the variable declaration, like this:

Code –

```
from selenium.webdriver.chrome.webdriver import WebDriver
```

```
chrome: WebDriver = webdriver.Chrome("C:\Program Files
(x86)\Google\Chrome\Application\chromedriver.exe")
```

- 2) This tells mypy that `chrome` is an instance of `WebDriver`, which is the base class for the `Chrome` webdriver. With this change, mypy no longer reports any errors in the code.