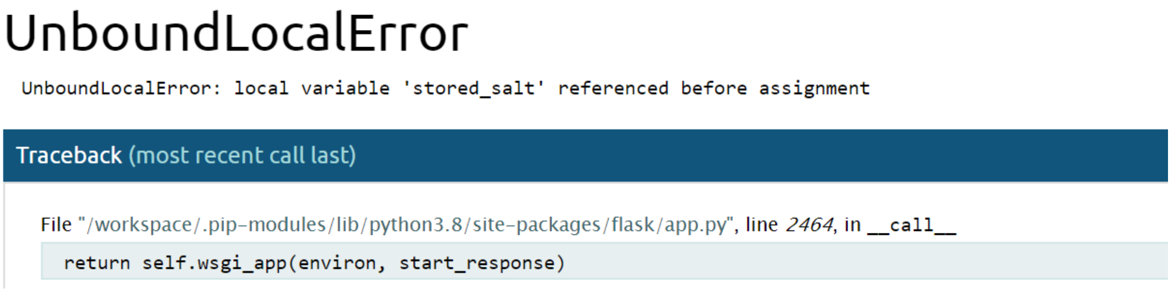
When trying to login, the user gets this error.



UnboundLocalError

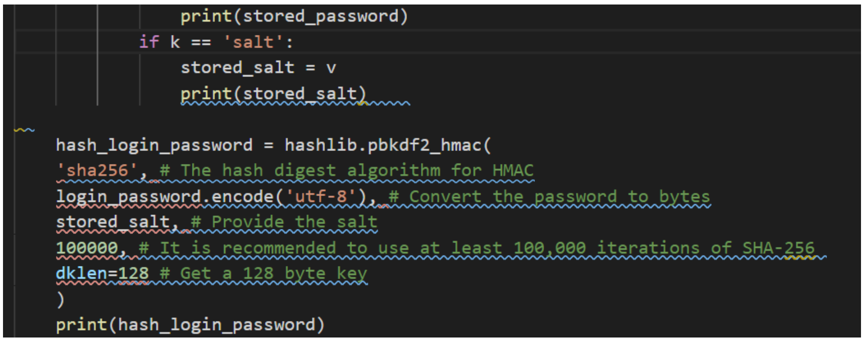
```
UnboundLocalError: local variable 'stored_salt' referenced before assignment
```

Traceback (most recent call last)

File "/workspace/.pip-modules/lib/python3.8/site-packages/flask/app.py", line *2464*, in `__call__`

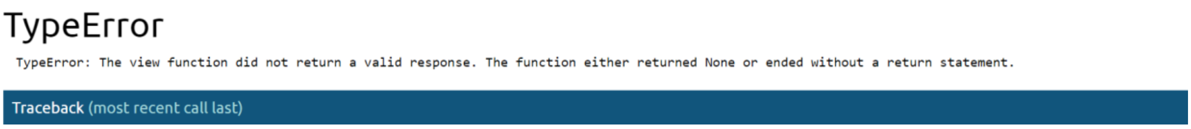
```
return self.wsgi_app(environ, start_response)
```

Fix attempt 1: Indentation means the script is ran before the value is retrieved.



```
                print(stored_password)
            if k == 'salt':
                stored_salt = v
                print(stored_salt)

    hash_login_password = hashlib.pbkdf2_hmac(
    'sha256', # The hash digest algorithm for HMAC
    login_password.encode('utf-8'), # Convert the password to bytes
    stored_salt, # Provide the salt
    100000, # It is recommended to use at least 100,000 iterations of SHA-256 
    dklen=128 # Get a 128 byte key
    )
    print(hash_login_password)
```

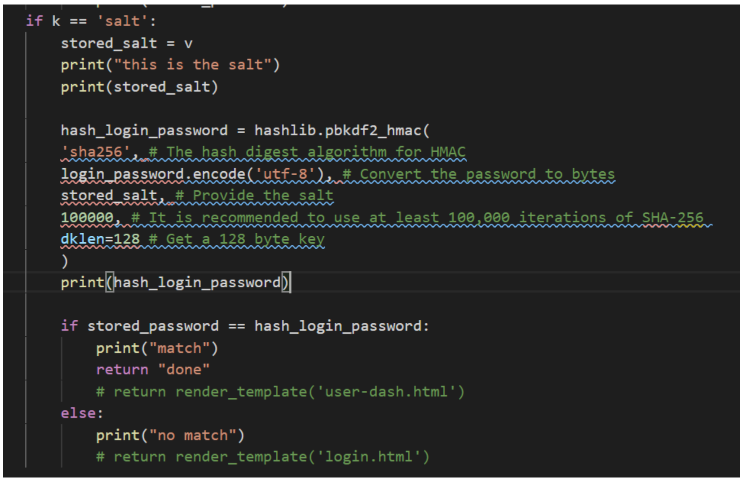
This did not resolve the issue as the if function then didn't pass.



TypeError

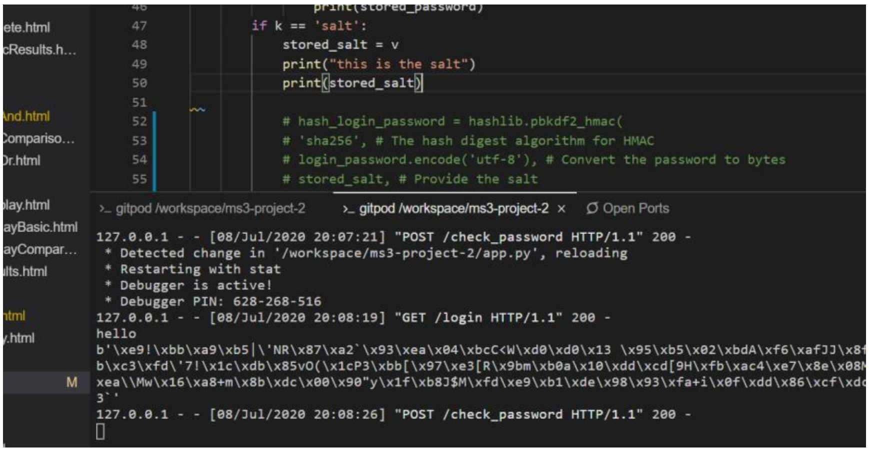
```
TypeError: The view function did not return a valid response. The function either returned None or ended without a return statement.
```

Traceback (most recent call last)



```
if k == 'salt':
    stored_salt = v
    print("this is the salt")
    print(stored_salt)

    hash_login_password = hashlib.pbkdf2_hmac(
    'sha256', # The hash digest algorithm for HMAC
    login_password.encode('utf-8'), # Convert the password to bytes
    stored_salt, # Provide the salt
    100000, # It is recommended to use at least 100,000 iterations of SHA-256 
    dklen=128 # Get a 128 byte key
    )
    print(hash_login_password)

    if stored_password == hash_login_password:
        print("match")
        return "done"
        # return render_template('user-dash.html')
    else:
        print("no match")
        # return render_template('login.html')
```

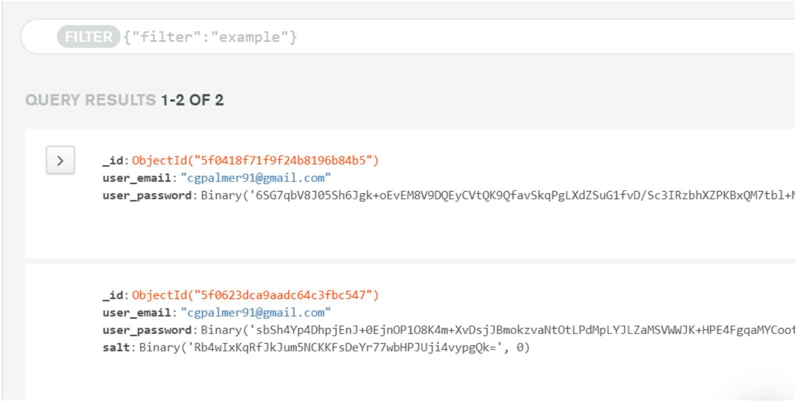
The print log wasn’t showing the stored salt. Therefore, the bug must be in that bit of code.



```
            print(stored_password)
        if k == 'salt':
            stored_salt = v
            print("this is the salt")
            print(stored_salt)

            # hash_login_password = hashlib.pbkdf2_hmac(
            # 'sha256', # The hash digest algorithm for HMAC
            # login_password.encode('utf-8'), # Convert the password to bytes
            # stored_salt, # Provide the salt
```

```
127.0.0.1 - - [08/Jul/2020 20:07:21] "POST /check_password HTTP/1.1" 200 -
 * Detected change in '/workspace/ms3-project-2/app.py', reloading
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 628-268-516
127.0.0.1 - - [08/Jul/2020 20:08:19] "GET /login HTTP/1.1" 200 -
hello
b'\xe9!\xbb\xa9\xb5|\'NR\x87\xa2`\x93\xea\x04\xbcC<W\xd0\xd0\x13 \x95\xb5\x02\xbdA\xf6\xafJJ\x8
b\xc3\xfd\'7!\x1c\xdb\x85vO(\x1cP3\xbb[\x97\xe3[R\x9bm\xb0a\x10\xdd\xcd[9H\xfb\xac4\xe7\x8e\x08
xea\\Mw\x16\xa8+m\x8b\xdc\x00\x90"y\x1f\xb8J$M\xfd\xe9\xb1\xde\x98\x93\xfa+i\x0f\xdd\x86\xcf\xd
3`'
127.0.0.1 - - [08/Jul/2020 20:08:26] "POST /check_password HTTP/1.1" 200 -
```

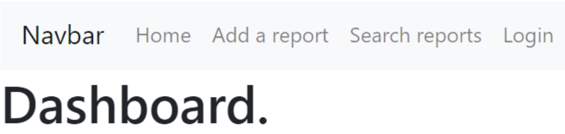
The reason the code wasn’t working is because the database has a duplicate of the email address and was returning the first result – which didn’t have the salt recorded. This stopped the rest of the code working.



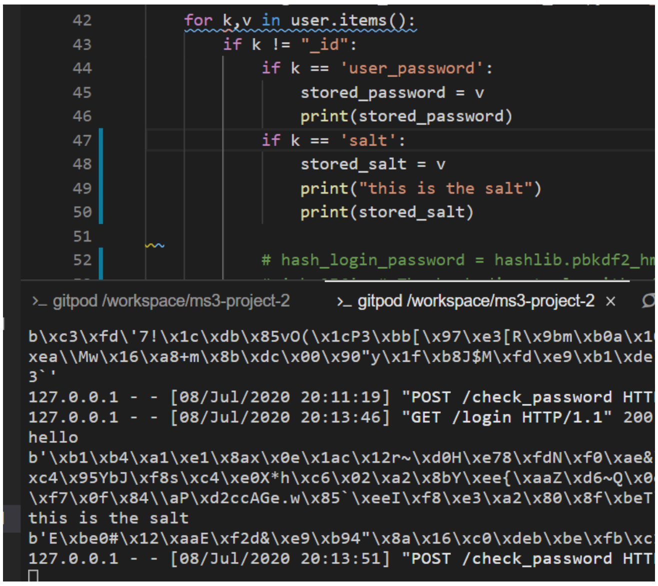
```
{"filter":"example"}

QUERY RESULTS 1-2 OF 2

_id: ObjectId("5f0418f71f9f24b8196b84b5")
user_email: "cgpalmer91@gmail.com"
user_password: Binary('6SG7qbV8J05Sh6Jgk+oEvEM8V9DQEyCVtQK9QfavSkqPgLXdZSuG1fvD/Sc3IRzbhXZPKBxQM7tbl+

_id: ObjectId("5f0623dca9aadc64c3fbc547")
user_email: "cgpalmer91@gmail.com"
user_password: Binary('sbSh4Yp4DhpjEnJ+0EjnOP1O8K4m+XvDsjJBmokzvaNtOtLPdMpLYJLZaMSVWWJK+HPE4FgqaMYCoo
salt: Binary('Rb4wIxKqRfJkJum5NCKKFsDeYr77wbHPJUji4vypgQk=', 0)
```

After deleting the first record I received the salt, correctly.

I tested the login and was directed to the dashboard as intended. Here is a screenshot of the success and the finished code.



Dashboard.



```
        for k,v in user.items():
            if k != "_id":
                if k == 'user_password':
                    stored_password = v
                    print(stored_password)
                if k == 'salt':
                    stored_salt = v
                    print("this is the salt")
                    print(stored_salt)

                # hash_login_password = hashlib.pbkdf2_hm
```

gitpod /workspace/ms3-project-2
gitpod /workspace/ms3-project-2

```
b\xc3\xfd\'7!\x1c\xdb\x85vO(\x1cP3\xbb[\x97\xe3[R\x9bm\xb0a\x1
xea\\Mw\x16\xa8+m\x8b\xdc\x00\x90"y\x1f\xb8J$M\xfd\xe9\xb1\xde
3`'
127.0.0.1 - - [08/Jul/2020 20:11:19] "POST /check_password HTT
127.0.0.1 - - [08/Jul/2020 20:13:46] "GET /login HTTP/1.1" 200
hello
b'\xb1\xb4\xa1\xe1\x8ax\x0e\x1ac\x12r~\xd0H\xe78\xfdN\xf0\xae&
xc4\x95YbJ\xf8s\xc4\xe0X*h\xc6\x02\xa2\x8bY\xee{\xaaZ\xd6~Q\x0
\xf7\x0f\x84\\aP\xd2ccAGe.w\x85`\xeeI\xf8\xe3\xa2\x80\x8f\xbeT
this is the salt
b'E\xbe0#\x12\xaaE\xf2d&\xe9\xb94"\x8a\x16\xc0\xdeb\xbe\xfb\xc
127.0.0.1 - - [08/Jul/2020 20:13:51] "POST /check_password HTT
```