UNIT 1.5 GRADED ASSIGNMENT

GOOD SOFTWARE ENGINEERING PRACTICES

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Task:

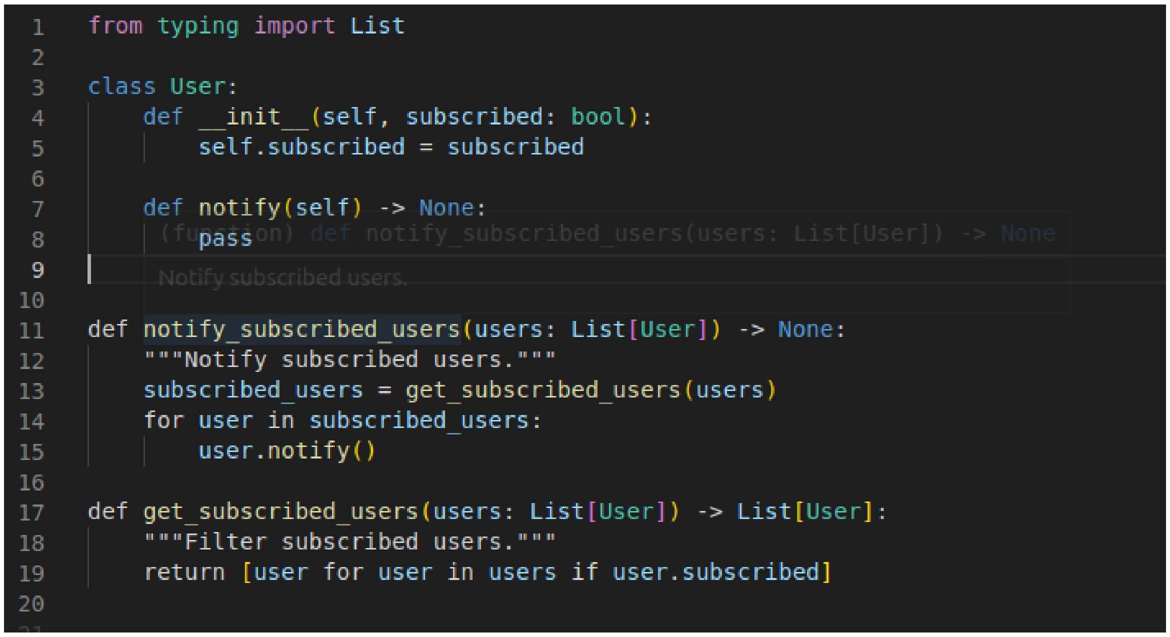
Refactor following code:

```
from typing import List
import pandas as pd
class User:
    sub: bool

def notify(user: User) -> None:
    Pass

def notify_users(x: List[User]) -> None:
  #Filter users with subscription and notify them.
  for u in x:
     if u.sub:
      # u.notify()
       notify(u)
```

Solution:



```python
from typing import List

class User:
    def __init__(self, subscribed: bool):
        self.subscribed = subscribed

    def notify(self) -> None:
        pass


def notify_subscribed_users(users: List[User]) -> None:
    """Notify subscribed users."""
    subscribed_users = get_subscribed_users(users)
    for user in subscribed_users:
        user.notify()

def get_subscribed_users(users: List[User]) -> List[User]:
    """Filter subscribed users."""
    return [user for user in users if user.subscribed]

```

```
(function) def notify_subscribed_users(users: List[User]) -> None
Notify subscribed users.
```

```python
from typing import List
class User:
  def __init__(self, subscribed: bool):
    self.subscribed = subscribed

  def notify(self) -> None:
    pass

def notify_subscribed_users(users: List[User]) -> None:
  """Notify subscribed users."""
  subscribed_users = get_subscribed_users(users)
  for user in subscribed_users:
    user.notify()

def get_subscribed_users(users: List[User]) -> List[User]:
  """Filter subscribed users."""
  return [user for user in users if user.subscribed]
```

Explanation:

- According to the YAGNI (You aren't gonna need it) I removed pandas library because we are not using it in the code.
- Then according to the naming rules, I changed the variable names like I replaced **sub** with **subscribed**, **u** with **user**. I also changed function names like I replaced **notify_users** with **notify_subscribed_users**. I added another function **get_subscribed_users** to get a list of all the subscribed users because according to the good software engineering practices a function should do only one thing. And in the task code **notify_users** is doing two things, one is to check that the user is subscribed or not and second is to notify the subscribed users. Now in the refactored code **get_subscribed_users** will filter the subscribers and **notify_subscribed_users** will send the notification.
- I also created a constructor in the class user and I moved the notify() function inside the User class because the user class should have the method to notify themselves.
- And I placed the caller function above the callee functions. The caller function is notify_subscribed_users() and the callee function is get_subscribed_users().