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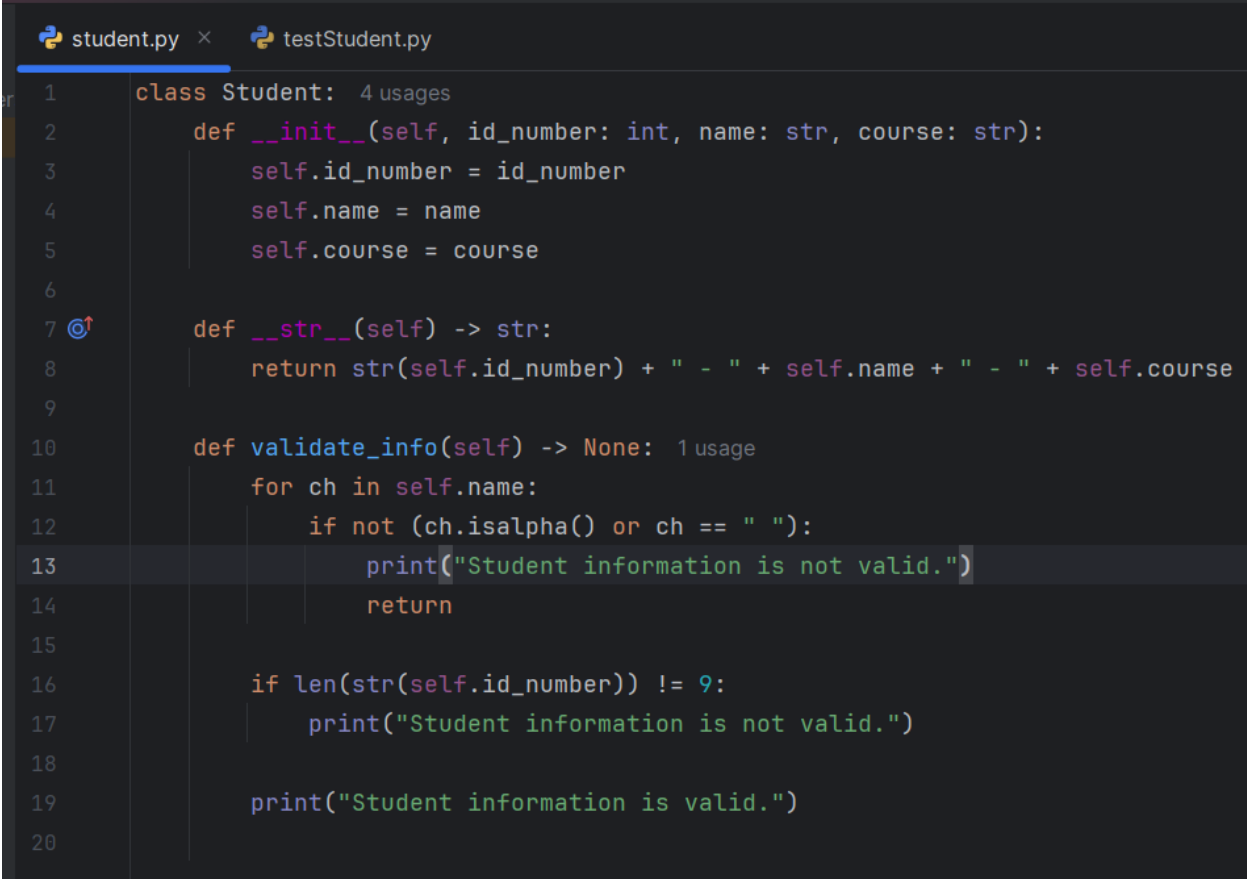
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Midterm Lab Task 6 (Constructor Activity)

PROBLEM # 2

CLASS – STUDENT:

```python
class Student:  4 usages
    def __init__(self, id_number: int, name: str, course: str):
        self.id_number = id_number
        self.name = name
        self.course = course

    def __str__(self) -> str:
        return str(self.id_number) + " - " + self.name + " - " + self.course

    def validate_info(self) -> None:  1 usage
        for ch in self.name:
            if not (ch.isalpha() or ch == " "):
                print("Student information is not valid.")
                return

        if len(str(self.id_number)) != 9:
            print("Student information is not valid.")

        print("Student information is valid.")
```

TEST CLASS:

```python
from student import Student

def test_str_method():  1 usage
    print("Action: Invoking __str__() method with the following Student information:")
    student1 = Student( id_number: 123456789, name: "John Doe", course: "Computer Science")
    print("ID:", student1.id_number)
    print("Name:", student1.name)
    print("Course:", student1.course)
    print("\nOutput:")
    print(student1)
    print("---------------------------------------------------------")

def test_str_with_short_id():  1 usage
    print("Action: Invoking __str__() method with the following Student information:")
    student2 = Student( id_number: 12345, name: "Jane Doe", course: "Mathematics")
    print("ID:", student2.id_number)
    print("Name:", student2.name)
    print("Course:", student2.course)
    print("\nOutput:")
    print(student2)
    print("---------------------------------------------------------")

def test_validate_info():  1 usage
    print("Action: Invoking validate_info() method with the following Student information:")
    student3 = Student( id_number: 987654321, name: "Alice123", course: "Physics")
    print("ID:", student3.id_number)
    print("Name:", student3.name)
    print("Course:", student3.course)
    print("\nOutput:")
    student3.validate_info()
    print("---------------------------------------------------------")

# Run the tests
if __name__ == "__main__":
    test_str_method()
    test_str_with_short_id()
    test_validate_info()
```

OUTPUT:

```
C:\Users\Patrick\PycharmProjects\PythonProject2\.venv\Scripts\python.exe C:\Users\
Action: Invoking __str__() method with the following Student information:
ID: 123456789
Name: John Doe
Course: Computer Science

Output:
123456789 - John Doe - Computer Science
----------------------------------------------------------
Action: Invoking __str__() method with the following Student information:
ID: 12345
Name: Jane Doe
Course: Mathematics

Output:
12345 - Jane Doe - Mathematics
----------------------------------------------------------
Action: Invoking validate_info() method with the following Student information:
ID: 987654321
Name: Alice123
Course: Physics

Output:
Student information is not valid.
----------------------------------------------------------
```