

## FINALS LAB TASK 2

### I. PROBLEM

#### Problem School Performance

**Note: You are to create 4 separate python files for this task:**

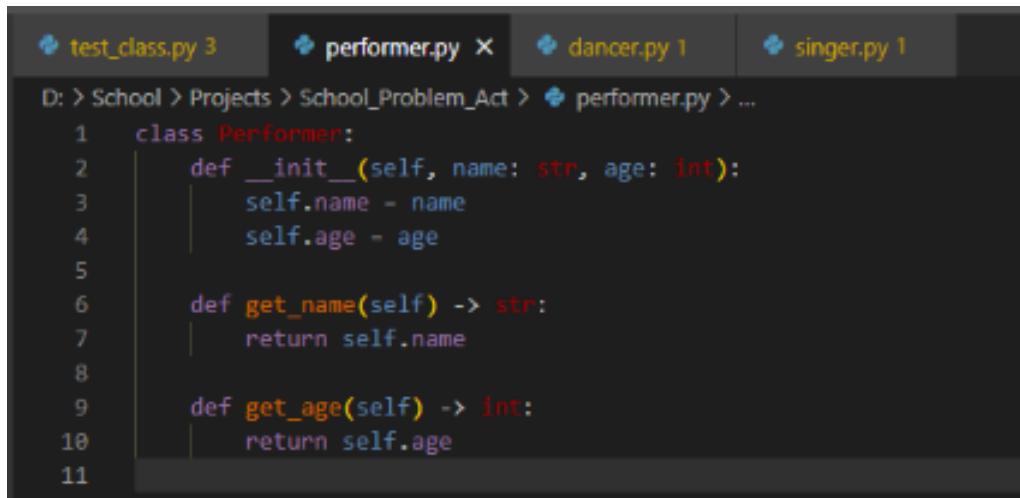
- **performer.py(base class)**
- **singer.py(sub class)**
- **dancer.py(sub class)**
- **test\_class.py – following the required test cases**

### II. CODE

i.

```
 1  from singer import Singer
 2  from dancer import Dancer
 3  from performer import Performer
 4
 5  def test_performer():
 6      performer = Performer("John", 25)
 7      print(f"Performer: {performer.get_name()}, Age: {performer.get_age()}")
 8
 9  def test_singer():
10      singer = Singer("Emily", 28, "Soprano")
11      print(f"Singer: {singer.get_name()}, Age: {singer.get_age()}, Vocal Range: {singer.get_vocal_range()}")
12      singer.sing()
13
14  def test_dancer():
15      dancer = Dancer("Anna", 22, "Ballet")
16      print(f"Dancer: {dancer.get_name()}, Age: {dancer.get_age()}, Dance Style: {dancer.get_dance_style()}")
17      dancer.dance()
18
19  # Run test cases
20  test_performer()
21  test_singer()
22  test_dancer()
```

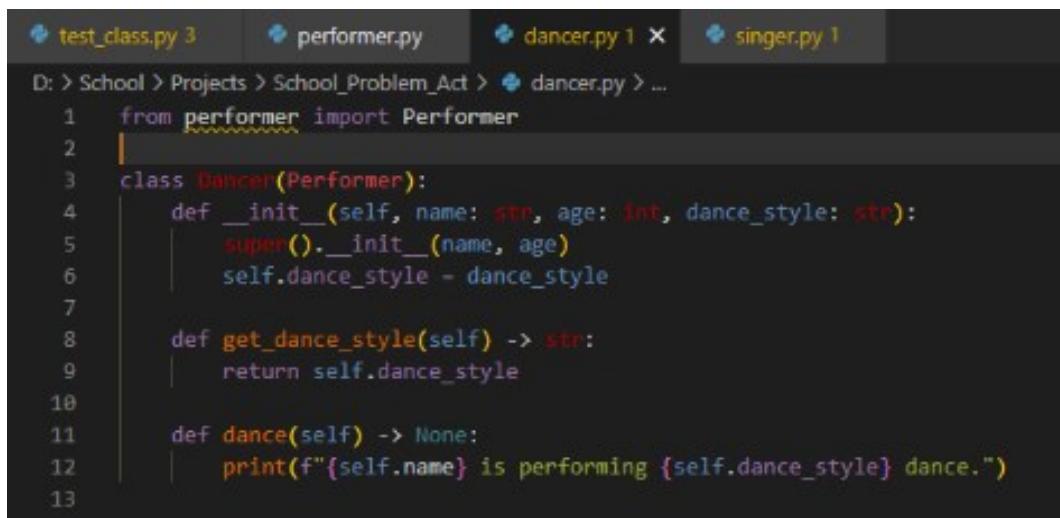
ii.



A screenshot of a code editor showing the file `performer.py`. The code defines a class `Performer` with three methods: `__init__`, `get_name`, and `get_age`.

```
1  class Performer:
2      def __init__(self, name: str, age: int):
3          self.name = name
4          self.age = age
5
6      def get_name(self) -> str:
7          return self.name
8
9      def get_age(self) -> int:
10         return self.age
11
```

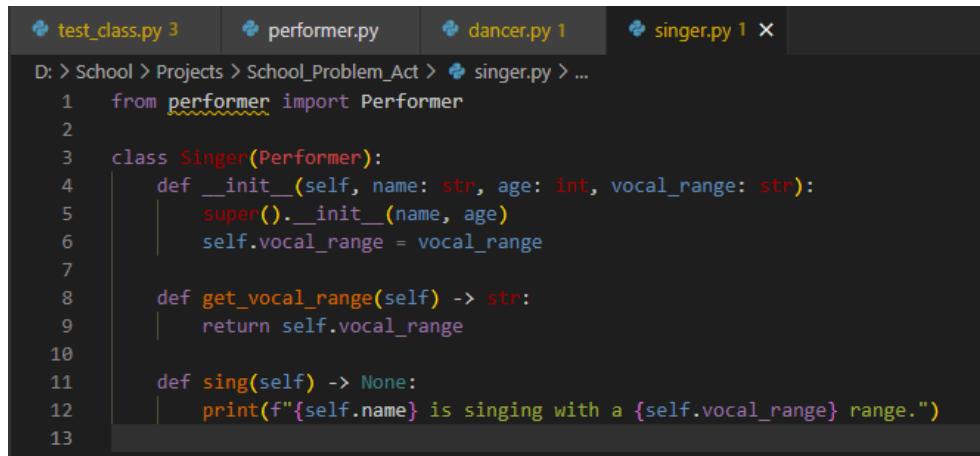
iii.



A screenshot of a code editor showing the file `dancer.py`. The code imports `Performer` from `performer.py` and defines a class `Dancer` that inherits from `Performer`. It includes methods for initializing dance style, getting dance style, and performing a dance.

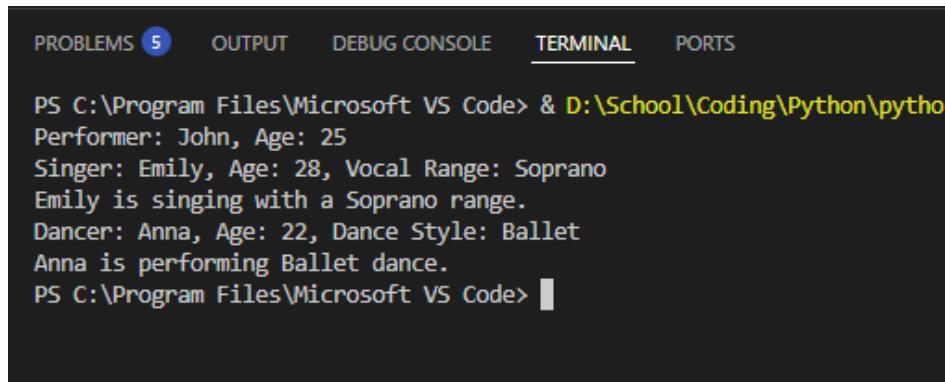
```
1  from performer import Performer
2
3  class Dancer(Performer):
4      def __init__(self, name: str, age: int, dance_style: str):
5          super().__init__(name, age)
6          self.dance_style = dance_style
7
8      def get_dance_style(self) -> str:
9          return self.dance_style
10
11     def dance(self) -> None:
12         print(f"{self.name} is performing {self.dance_style} dance.")
```

#### iv.



```
D: > School > Projects > School_Problem_Act > singer.py > ...
1   from performer import Performer
2
3   class Singer(Performer):
4       def __init__(self, name: str, age: int, vocal_range: str):
5           super().__init__(name, age)
6           self.vocal_range = vocal_range
7
8       def get_vocal_range(self) -> str:
9           return self.vocal_range
10
11      def sing(self) -> None:
12          print(f"{self.name} is singing with a {self.vocal_range} range.")
```

### III. SAMPLE OUTPUT



```
PROBLEMS 5 OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Program Files\Microsoft VS Code> & D:\School\Coding\Python\python
Performer: John, Age: 25
Singer: Emily, Age: 28, Vocal Range: Soprano
Emily is singing with a Soprano range.
Dancer: Anna, Age: 22, Dance Style: Ballet
Anna is performing Ballet dance.
PS C:\Program Files\Microsoft VS Code>
```