Finals Task 2. Inheritance

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**

In a school musical performance, different types of performers participate. For this program, we will be implementing the performers.

Base Class - Performer:

- Properties:
  - `name` (type: str): Represents the name of the performer.
  - `age` (type: int): Represents the age of the performer.
- Constructor:
  - `__init__(self, name: str, age: int)`: Initializes the `name` and `age` properties.
- Getters
  - `get_name(self) -> str`: Returns the name
  - `get_age(self) -> int`: Returns the age

Subclass - Singer:

- Inherits From: `Performer`
- Additional Property:
  - `vocal range` (type: str): Represents the vocal range of the singer.
- Constructor:
  - `__init__(self, name: str, age: int, vocal_range: str)`: Initializes the `name` and `age` properties by calling the parent class's constructor and sets the `vocal_range` property.
- Getter:
  - `get_vocal_range(self) -> str`: Returns the vocal range of the singer.
- Method:
  - `sing(self) -> None`: Prints "{name} is singing with a {vocal_range} range."

Subclass - Dancer:

- Inherits From: `Performer`
- Additional Property:
  - `dance_style` (type: str): Represents the dance style of the dancer.
- Constructor:
  - `__init__(self, name: str, age: int, dance_style: str)`: Initializes the `name` and `age` properties by calling the parent class's constructor and sets the `dance_style` property.
- Getter:
  - `get_dance_style(self) -> str`: Returns the dance style of the dancer.
- Method:
  - `dance(self) -> None`: Prints "{name} is performing {dance_style} dance."

Sample output for the Test Class