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BSCS C204

## Finals Lab Task 2: INHERITANCE

### 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

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

### File 1: performer.py

#### Source Code:

```
class Performer:  
  
    def __init__(self, name: str, age: int):  
        self._name = name  
        self._age = age  
  
    def get_name(self) -> str:  
        return self._name  
  
    def get_age(self) -> int:  
        return self._age
```

### File 2: singer.py

#### Source Code:

```
from performer import Performer  
  
class Singer(Performer):  
  
    def __init__(self, name: str, age: int, vocal_range: str):  
        self._name = name  
        self._age = age
```

```

        self._vocal_range = vocal_range

    def get_vocal_range(self) -> str:
        return self._vocal_range

    def sing(self) -> None:
        print(f"{self.get_name()} is singing with a
{self.get_vocal_range()} range.")

```

### **File 3: dancer.py**

#### **Source Code:**

```

from performer import Performer

class Dancer(Performer):

    def __init__(self, name: str, age: int, dance_style: str):
        self._name = name
        self._age = age
        self._dance_style = dance_style

    def get_dance_style(self) -> str:
        return self._dance_style

    def dance(self) -> None:
        print(f"{self.get_name()} is performing
{self.get_dance_style()} dance.")

```

### **File 4: test\_class.py**

#### **Source Code:**

```

from performer import Performer
from singer import Singer
from dancer import Dancer

def main():

    p = Performer("John", 25)
    print(p.get_name(), p.get_age()) #TC1

    d = Dancer("Emily", 28, "Ballet")
    print(d.get_name(), d.get_age(), d.get_dance_style()) #TC2

    d.dance() #TC3

```

```
print(issubclass(Dancer, Performer)) #TC4

s = Singer("Linda", 35, "Soprano")
print(s.get_name(), s.get_age(), s.get_vocal_range()) #TC5

s.sing() #TC6

if __name__ == "__main__":
    main()
```

**Sample Output:**

TERMINAL

```
John 25
Emily 28 Ballet
Emily is performing Ballet dance.
True
Linda 35 Soprano
Linda is singing with a Soprano range.
```

```
** Process exited - Return Code: 0 **
```