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BSCS - C204

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

Source Code: performer.py(base class)

```python
class Performer:  10 usages
    def __init__(self, name: str, age: int):
        self.name = name
        self.age = age

    def get_name(self) -> str:  6 usages
        return self.name

    def get_age(self) -> int:  6 usages
        return self.age

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

p = Performer( name: "Shane",  age: 20)
print(p.get_name(), p.get_age())

d = Dancer( name: "Andrew",  age: 20,  dance_style: "Hiphop")
print(d.get_name(), d.get_age(), d.get_dance_style())

d.dance()

print(issubclass(Dancer, Performer))

s = Singer( name: "Kyla",  age: 19,  vocal_range: "Soprano")
print(s.get_name(), s.get_age(), s.get_vocal_range())

s.sing()
```

Source Code: singer.py(sub class)

```python
from performer import Performer

class Singer(Performer):  4 usages
    def __init__(self, name: str, age: int, vocal_range: str):
        super().__init__(name, age)
        self.vocal_range = vocal_range

    def get_vocal_range(self) -> str:  2 usages
        return self.vocal_range

    def sing(self) -> None:  2 usages
        print(f"{self.name} is singing with a {self.vocal_range} range.")
```

Source Code: dancer.py(sub class)

```python
from performer import Performer

class Dancer(Performer):  6 usages
    def __init__(self, name: str, age: int, dance_style: str):
        super().__init__(name, age)
        self.dance_style = dance_style

    def get_dance_style(self) -> str:  2 usages
        return self.dance_style

    def dance(self) -> None:  2 usages
        print(f"{self.name} is performing {self.dance_style} dance.")
```

Source Code: test_class.py

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

p = Performer( name: "Shane",  age: 20)
print(p.get_name(), p.get_age())

d = Dancer( name: "Andrew",  age: 20,  dance_style: "Hiphop")
print(d.get_name(), d.get_age(), d.get_dance_style())

d.dance()

print(issubclass(Dancer, Performer))

s = Singer( name: "Kyla",  age: 19,  vocal_range: "Soprano")
print(s.get_name(), s.get_age(), s.get_vocal_range())

s.sing()
```

SAMPLE OUTPU:

Case 1

```
Shane 20
```

Case 2

```
Andrew 20 Hiphop
```

Case 3

```
Andrew 20 Hiphop
Andrew is performing Hiphop dance.
```

Case 4

```
True
```

Case 5

```
Kyla 19 Soprano
```

Case 6

```
Kyla 19 Soprano
Kyla is singing with a Soprano range.
```