

Calma, Michael Vincent, L.

BSCS – C204

Final Lab Task 2;

Code:

main.py

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

print("Test case 1")
p1 = Performer("Michael", 19)
print("Performer's name:", p1.get_name())
print("Performer's age:", p1.get_age())
print()

print("Test case 2")
s1 = Singer("Ava", 12, "Soprano")
print("Singer's name:", s1.get_name())
print("Singer's age:", s1.get_age())
print("Vocal range:", s1.get_vocal_range())
print()

print("Test case 3")
d1 = Dancer("Mia", 9, "Ballet")
print("Dancer's name:", d1.get_name())
print("Dancer's age:", d1.get_age())
print("Dance style:", d1.get_dance_style())
print()

print("Test case 4")
print("Showing polymorphism using Performer reference:")
performers = [
    Performer("Liam", 10),
    Singer("Ava", 12, "Soprano"),
    Dancer("Mia", 9, "Ballet")
]

for perf in performers:
    print(perf.get_name(), "-", perf.get_age())
print()

print("Test case 5")
print("Showing polymorphism with method calls:")
s1 = Singer("Ava", 12, "Soprano")
s1.sing()

d1 = Dancer("Mia", 9, "Ballet")
d1.dance()
```

performer.py

```
main.py × performer.py × singer.py × dancer.py ×
    7 usages
class Performer:
    def __init__(self, name: str, age: int):
        self._name = name
        self._age = age

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

    4 usages
    def get_age(self) -> int:
        return self._age
```

singer.py

```
from performer import Performer

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

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

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

dancer.py

```
from performer import Performer

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

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

    1 usage
    def dance(self) -> None:
        print(f"{self.get_name()} is performing ({self._dance_style}) dance.")
```

Output:

```
main ✘
C:\Users\COMLAB\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\COMLAB\PycharmProjects\pythonProject1\main.py
Test case 1
Performer's name: Michael
Performer's age: 19

Test case 2
Singer's name: Ava
Singer's age: 12
Vocal range: Soprano

Test case 3
Dancer's name: Mia
Dancer's age: 9
Dance style: Ballet

Test case 4
Showing polymorphism using Performer reference:
Liam - 10
Ava - 12
Mia - 9

Test case 5
Showing polymorphism with method calls:
Ava is singing with a (Soprano) range.
Mia is performing (Ballet) dance.

Process finished with exit code 0
```

