Python Assignment - 3

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Aim: Create a Vehicle class with max_speed and mileage instance attributes. Create a Bus and Taxi classes that inherit the Vehicle class. Give the capacity argument of Bus. The seating_capacity() for bus and Taxi a default value of 50 and 3 respectively. The default fare charge of any vehicle is seating capacity * 100 per 5km. If Vehicle is Bus instance, we need to add an extra 10% on full fare as a maintenance charge. So total fare for bus instance will become the final amount = total fare + 10% of the total fare. Calculate total fare charges spent by group for picnic if both taxi and bus is used for travelling 100km one way. **(LO3)**

Code:

```
# -*- coding: utf-8 -*-
"""
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"""

class Vehicle:

    def __init__(self, name, max_speed, mileage, capacity):
        self.name = name
        self.max_speed = max_speed
        self.mileage = mileage
        self.capacity = capacity

    def seating_capacity(self, capacity):
        return f"The seating capacity of a {self.name} is {capacity} passengers"

    def fare(self):
        return self.capacity * 100

class Bus(Vehicle):
    def seating_capacity(self, capacity=50):
        return super().seating_capacity(capacity=50)

    def fare(self):
        amount = super().fare()
        amount += amount * 10 / 100
        return amount

class taxi(Vehicle):
    def seating_capacity(self, capacity=3):
        return super().seating_capacity(capacity=3)

School_bus = Bus("Volvo Bus", 180, 12,50)
```

```
print(School_bus.seating_capacity())
print("Total Bus fare is:", School_bus.fare())

print("\n--------------------------------------------------------------------\n")

taxi = taxi("Taxi", 280, 22,3)
print(taxi.seating_capacity())
print("Total taxi fare is:", taxi.fare())
```

Output: