

# 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. **(L03)**

## **Code:**

```
# -*- coding: utf-8 -*-
"""
@author: jkfrason
"""

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)

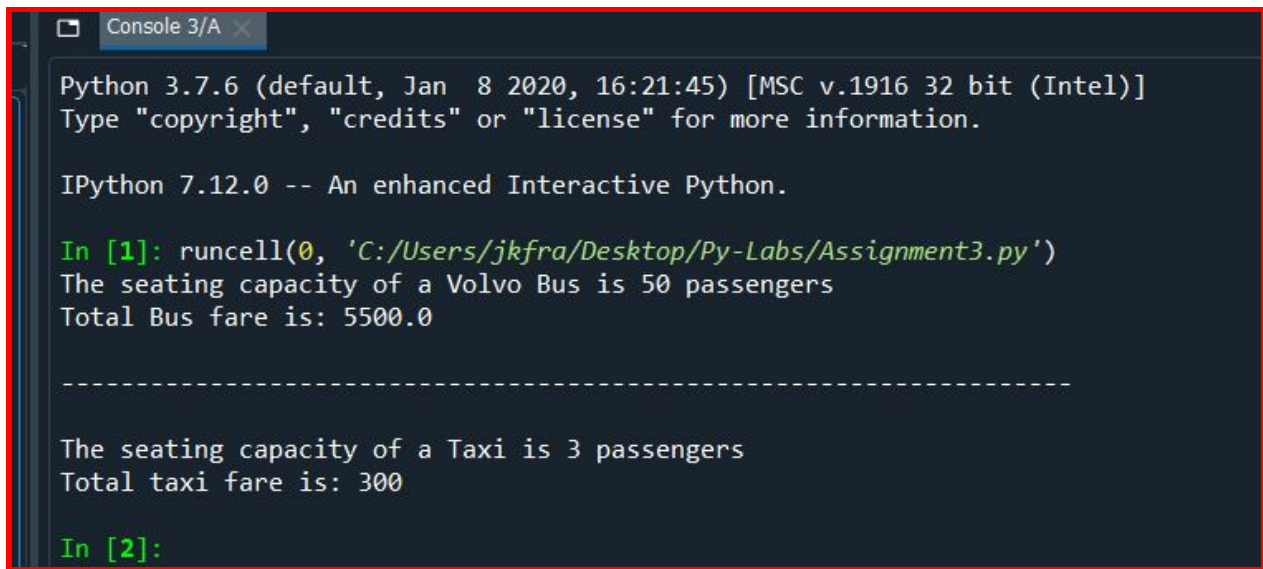
School_bus = Bus("Volvo Bus", 180, 12, 50)
```

```
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:**

A screenshot of a Windows command prompt window titled "Console 3/A". The window shows the output of running a Python script. The first line indicates the Python version (3.7.6) and the time (Jan 8 2020, 16:21:45). The second line shows the IPython version (7.12.0) and its description. The third line shows the execution of the script 'C:/Users/jkfra/Desktop/Py-Labs/Assignment3.py'. The output of the script is displayed in two sections, separated by a dashed line. The first section shows the seating capacity of a Volvo Bus (50 passengers) and the total bus fare (5500.0). The second section shows the seating capacity of a Taxi (3 passengers) and the total taxi fare (300). The prompt 'In [2]:' is visible at the bottom.

```
Python 3.7.6 (default, Jan  8 2020, 16:21:45) [MSC v.1916 32 bit (Intel)]
Type "copyright", "credits" or "license" for more information.

IPython 7.12.0 -- An enhanced Interactive Python.

In [1]: runcell(0, 'C:/Users/jkfra/Desktop/Py-Labs/Assignment3.py')
The seating capacity of a Volvo Bus is 50 passengers
Total Bus fare is: 5500.0

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The seating capacity of a Taxi is 3 passengers
Total taxi fare is: 300

In [2]:
```