```python
# Inheritance in Python :
#! Single Inheritance:
'''
With inheritancce one class can derive the properties of another
class.
eg: Man inheriting features from his father (parent).
'''
# Example:
#! Creating the base class (parent class)
class Vehicle:
    def __init__(self, mileage, cost):
        self.mileage = mileage
        self.cost = cost
    def show_vehicle_details(self):
        print("Mileage of vehicle is: ", self.mileage)
        print("Cost of vehicle is: ", self.cost)
        print("I am a vehicle.")
# Instantiating the object for base class :
v1 = Vehicle(200, 500000)
v1.show_vehicle_details()

#! Creating the subclass (child class)
class Car(Vehicle):
    def show_car_details(self):
        print("I am a car.")
# Instantiating the object for child class
c1 = Car(350, 1200000)
c1.show_vehicle_details()
# Invoking the child class method
c1.show_car_details()
```

```
Mileage of vehicle is:  200
Cost of vehicle is:  500000
I am a vehicle.
Mileage of vehicle is:  350
Cost of vehicle is:  1200000
I am a vehicle.
I am a car.
```

```python
# Over-riding __init__ method:

class Vehicle:                  # Parent Class (Base Class)
    def __init__(self, mileage, cost):
        self.mileage = mileage
        self.cost = cost
    def show_vehicle_details(self):
        print("Mileage of vehicle is: ", self.mileage)
        print("Cost of vehicle is: ", self.cost)
        print("I am a vehicle.")
```

```
v1 = Vehicle(250, 700000)
v1.show_vehicle_details()
# Output:
'''
Mileage of vehicle is:  250
Cost of vehicle is:  700000
I am a vehicle.
'''
#! Overriding __init__ Method
class Car(Vehicle):              # Child Class (Subclass)
    def __init__(self, mileage, cost, tyre, hp):
        super().__init__(mileage, cost)
        self.tyre = tyre
        self.hp = hp
    def show_car_details(self):
        print("Number of tyres in car: ", self.tyre)
        print("Horse Power of car is: ", self.hp)
        print("I am a car.")
c1 = Car(330, 1700000, 6, 763)
c1.show_car_details()                        # invoking
show_car_details() method from child class
# Output:
'''
Number of tyres in car:  6
Horse Power of car is:  763
I am a car.
'''
c1.show_vehicle_details()                    # invoking
shoe_vehicle_details() method from parent class
# Output:
'''
Mileage of vehicle is:  330
Cost of vehicle is:  1700000
I am a vehicle.
'''
# Overrides Vehicle(Parent) Class and Car(Child) Class


Mileage of vehicle is:  250
Cost of vehicle is:  700000
I am a vehicle.
Number of tyres in car:  6
Horse Power of car is:  763
I am a car.
Mileage of vehicle is:  330
Cost of vehicle is:  1700000
I am a vehicle.

# Types of Inheritance:
'''
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1. Single Inheritance
2. Multiple Inheritance
3. Multilevel Inheritance
4. Hybrid Inheritance
'''
# Single Inheritance: Discussed Above
```