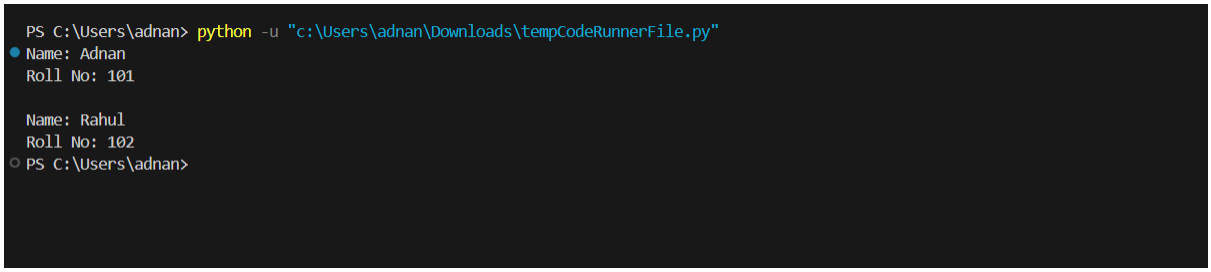
Task 1: Class & Object

```
class Student:
    def __init__(self, name, roll_no):
        self.name = name
        self.roll_no = roll_no

    def display(self):
        print("Name:", self.name)
        print("Roll No:", self.roll_no)

# Creating objects
s1 = Student("Adnan", 101)
s2 = Student("Rahul", 102)

s1.display()
print()
s2.display()
```



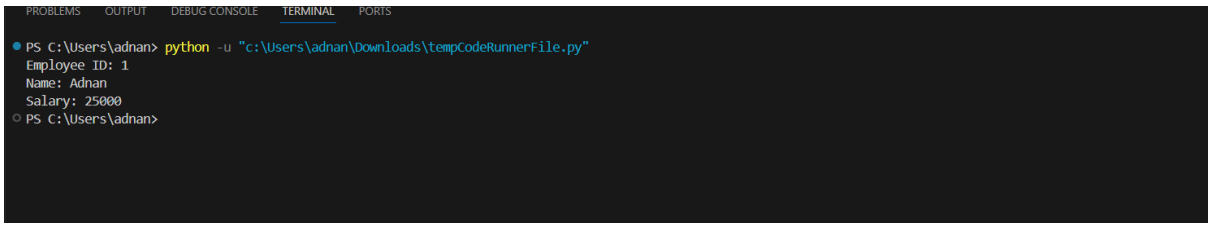
Task 2: Constructor

```
class Employee:
    def __init__(self, emp_id, name, salary):
```

```
        self.emp_id = emp_id
        self.name = name
        self.salary = salary

    def display(self):
        print("Employee ID:", self.emp_id)
        print("Name:", self.name)
        print("Salary:", self.salary)

e1 = Employee(1, "Adnan", 25000)
e1.display()
```



Task 3: Instance vs Class Variable

```
class College:
    college_name = "Sahyadri College Of Engg & Management"

    def __init__(self, student_name, branch):
        self.student_name = student_name
        self.branch = branch

    def display(self):
        print("College Name:", College.college_name)
        print("Student Name:", self.student_name)
```

```
        print("Branch:", self.branch)


c1 = College("Adnan", "CSE")
c2 = College("Rajath", "ECE")


c1.display()
print()
c2.display()
```

```
PS C:\Users\adnan> python -u "c:\Users\adnan\Downloads\6.py"
College Name: Sahyadri College Of Engg & Management
Student Name: Adnan
Branch: CSE

College Name: Sahyadri College Of Engg & Management
Student Name: Rajath
Branch: ECE
PS C:\Users\adnan>
```

Task 4: Private Variable

```
class BankAccount:
    def __init__(self, balance):
        self.__balance = balance


    def deposit(self, amount):
        self.__balance += amount
        print("Amount Deposited")


    def withdraw(self, amount):
        if amount <= self.__balance:
            self.__balance -= amount
            print("Amount Withdrawn")
```

```
        else:
            print("Insufficient Balance")

    def show_balance(self):
        print("Balance:", self.__balance)

b1 = BankAccount(50000)
b1.deposit(10000)
b1.withdraw(20000)
b1.show_balance()
```

Task 5: Single Inheritance

```
class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

class Student(Person):
    def __init__(self, name, age, marks):
        super().__init__(name, age)
        self.marks = marks

    def display(self):
        print("Name:", self.name)
```

```
        print("Age:", self.age)
        print("Marks:", self.marks)

s1 = Student("Adnan", 20, 85)
s1.display()
```

```
PS C:\Users\adnan> python -u "c:\Users\adnan\Downloads\6.py"
Name: Adnan
Age: 20
Marks: 85
```

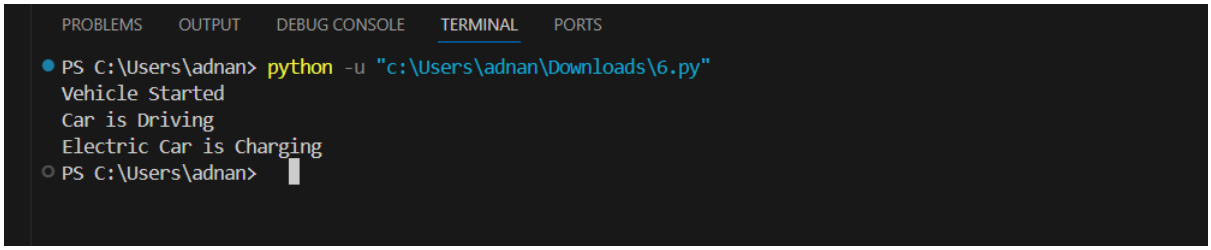
Task 6: Multilevel Inheritance

```
class Vehicle:
    def start(self):
        print("Vehicle Started")

class Car(Vehicle):
    def drive(self):
        print("Car is Driving")

class ElectricCar(Car):
    def charge(self):
        print("Electric Car is Charging")

ec1 = ElectricCar()
ec1.start()
ec1.drive()
ec1.charge()
```



Task 7: Mobile Phone

```
class Mobile:
    def __init__(self, brand, price):
        self.brand = brand
        self.price = price

    def show_details(self):
        print("Brand:", self.brand)
        print("Price:", self.price)

m1 = Mobile("Redmi", 23000)
m2 = Mobile("Apple", 170000)
m3 = Mobile("vivo", 50000)

m1.show_details()
print()
m2.show_details()
print()
m3.show_details()
```

```
PS C:\Users\adnan> python -u "c:\Users\adnan\Downloads\6.py"
Brand: Redmi
Price: 23000

Brand: Apple
Price: 170000

Brand: vivo
Price: 50000
PS C:\Users\adnan>
```

Task 8: Laptop Configuration

```
class Laptop:
    def __init__(self, ram, processor, storage):
        self.ram = ram
        self.processor = processor
        self.storage = storage

    def display_config(self):
        print("RAM:", self.ram)
        print("Processor:", self.processor)
        print("Storage:", self.storage)

l1 = Laptop("8GB", "i5", "512GB SSD")
l1.display_config()
```

```
PS C:\Users\adnan> python -u "c:\Users\adnan\Downloads\6.py"
RAM: 8GB
Processor: i5
Storage: 512GB SSD
PS C:\Users\adnan>
```

Task9:

```
class Employee:
    company_name = "Infosys"
```

```
    def __init__(self, name, salary):
        self.name = name
        self.salary = salary

    def display(self):
        print("Company Name:", Employee.company_name)
        print("Employee Name:", self.name)
        print("Salary:", self.salary)
        print()

emp1 = Employee("Alice", 50000)
emp2 = Employee("xyz", 60000)

emp1.display()
emp2.display()
```