```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

class Parent():
    def assign_name(self,name):
        self.name=name
    def show_name(self):
        return self.name

class Child(Parent):
    def assign_age(self,age):
        self.age=age
    def show_age(self):
        return self.age

class GrandChild(Child):
    def assign_gender(self,gender):
        self.gender=gender
    def show_gender(self):
        return self.gender

gc=GrandChild()
gc.assign_name("sweety")
gc.assign_age(38)
gc.assign_gender("Female")
print(gc.show_name())
print(gc.show_age())
print(gc.show_gender())
```

```
sweety
38
Female
```

```
# 1. Basic Class and Object

class Dog:
    def __init__(self,name):
        self.name=name

    def bark(self):
        return f"{self.name} say woof !"
# creating an instance of the Dog class
dog1=Dog("Buddy")
dog1.bark()
```

```
'Buddy say woof !'
```

```python
# Encapsulation

class BankAccount:
    def __init__(self, owner, balance=0):
        self.owner=owner
        self.__balance=balance #private attribute

    def deposit(self, amount):
        if amount > 0:
            self.__balance +=amount

    def withdraw(self, amount):
        if 0 < amount <=self.__balance:
            self.__balance-=amount
        else:
            print("Insufficient funds")

    def get_balance(self):
        return self.__balance
# creating an instance of the BankAccount class
account = BankAccount("Alice", 1000)
account.deposit(500)
account.withdraw(200)
print(account.get_balance())
```

```
1300
```