**8. Program to create classes and objects in python.**

**Aim:** To create a python program to demonstrate the concepts of classes and objects.

**Description:** Python classes and objects enables us create complex and structured code. They are fundamental concepts of OOPS and help in organizing and managing code for large projects. They allow us to create structured and reusable code by defining custom datatypes and their behavior. Classes allow us to define custom datatypes and objects, represents instance of those datatype, each with its own unique state and behavior to create a class, we use the keyword class name, while objects are instance of class. We create objects by calling the class constructor (instantiation). Proceeding with the program we define the class name Dog which include a constructor method init() that initializes instance of a class with the attributes name and breed, after which we include a method named bark that prints the message indicating that the dog is barking. Further we create 2 objects (instances) of the dog class, named Dog1 and Dog2 with specific names and breeds. Now we access and print the attributes (name and breed) of each dog instance, calling the bark method for each dog instance, calling the bark method for each method for each dog instance causing them to bark.

**Code:**

class Dog:

def \_\_init\_\_(self,name,breed):

self.name=name

self.breed=breed

def bark(self):

print(f"{self.name}is barking!")

dog1=Dog("Buddy","Golden Retiever")

dog2=Dog("Max","German Shepherd")

print(f"{dog1.name} is a {dog1.breed}")

print(f"{dog2.name} is a {dog2.breed}")

dog1.bark()

dog2.bark()

Output:

