**Day-5 Evening Assessment**

**Instance Method**

1.An instance method is a method that operates on an instance of a class. It takes self as the first parameter, which refers to the object calling the method.  
Example:  
class Dog:  
   def bark(self):  
       print("Woof!")  
Here, bark() is an instance method because it's defined inside a class and takes self.  
  
2. class Car:  
   def start\_engine(self):  
       print("Engine started.")  
  
3. You call an instance method using an object.

Example:  
car1 = Car()  
car1.start\_engine()  

4. import math  
  
class Circle:  
   def \_\_init\_\_(self, radius):  
       self.radius = radius  
  
   def area(self):  
       return math.pi \* self.radius \*\* 2  
  
5. You will get a TypeError, because the self parameter is missing.  
Example:  
Car.start\_engine()

**Class Method**

6. A class method is a method that is bound to the class, not the instance. It takes class as the first parameter instead of self. It can access or modify class variables shared among all instances.

Instance method is called with object and class method is called with class or object. Instance method has instance variables and class method has class variables.

Example:

class MyClass:  
   count = 0     
  
   def instance\_method(self):  
       print("This is an instance method.")  
  
   @classmethod  
   def class\_method(cls):  
       print("This is a class method. Count:", cls.count)

7. class Employee:  
   company = "TechCorp"     
  
   @classmethod  
   def get\_company\_name(cls):  
       return cls.company  
print(Employee.get\_company\_name())

o/p: TechCorp  
  
8. To define a class method, use the @classmethod decorator.  
  
9. class Counter:  
   count = 0     
  
   @classmethod  
   def increment(cls):  
       cls.count += 1

**Static Method**

10. A static method is a method that doesn't take self or cls as its first argument. It behaves like a regular function but belongs to a class's namespace.

Example:

class MathUtils:  
   @staticmethod  
   def add(a, b):  
       return a + b

11. class MathUtils:  
   @staticmethod  
   def is\_even(num):  
       return num % 2 == 0

12. -Class method  
-Static method