	Chapter 11 - Inheritance & more on OOPs
0475	was that and when the same was the little Mills
	Inheritance is a way of creating a new class from
	Inheritance is a way of creating a new class from an existing class
	S tours !
	Syntax:
	Class Employee: → Base Class # Code
	# code
	o o motivate builded
1/4	thing a dill doss broom a parmit for anoth
	class Programmer (Employee): -> Derived or child class # code
	# Code
	We can use the methods and attribute of temployee in
	Programmer Object.
	Also, we can overwrite or add new attributes and
	We can use the methods and attribute of Employee in Programmer object. Also, we can overwrite or add new attributes and methods in Programmer class.
	Types of Inheritance
,	Cial interilence to the state of the same a fortain and a
7	As I lible in both to use
27	Single inheritance  Multiple inheritance  Multilevel inheritance
3,	Multilevel interitance
	Single Inheritance
	Single inheritance occurs when shild class inherits
	Single inheritance occurs when still class inherits only a single parent class
4	the American Single Landon Brown in Son South Street Control of the Street Control of th
	Base I to decide with four him and
bok	large that the state is fined abliquete a charge
	Derived

Multiple Inheritance Multiple inheritance occurs when the schild class inherits from more than one parent class. Parent 2 Parent 1 Multilevel Inheritance When a child class becomes a parent for another child class Super() method Super method is used to access the methods of a super class in the derived class Super(). \_\_init\_\_()

Lalls constructor of the base class class methods A class method is a method which is bound to the class and not the object of the class.

Classmethod decorator is used to create a class method

Syntax to create a class method:	
Jan V Class Milling.	
@ Classmothed	
Classmethod def (cls, p, pz):	
200	
and the second of the second o	
Obroberty decorators	
Oproperty decorators Consider the following class	
Class Employee:  @ property  def name (self):  return self-ename	
@ property	
def name (self):	
return self-ename	
Other August magic mothers in by thon	
if e = Employee() is an object of class employee	
if e = Employee() is an object of class employee, we can print (e-name) to print the ename/call name() function	
Lydo Lydy Office of Lood in the State of Lines	
@ getters and @ setters  The method name with eproperty decorator is called getter method	
The method name with eproperty decorator is called getter	
cale can define a function + a name catter decorate like	
TYCE CON CLETTIC ME HUMCTION TO HUMBE STELLER CHECOVATOR 1, RO	
We can define a function + @ name · setter de covator like below:	
below:	
@ name · Setter	
@ name · Setter	
@ name · Setter	
@ name Setter  def name (Self, Value):  Self. ename = Value	
@ name Setter  def name (Self, Value):  Self. ename = Value	
@ name Setter  def name (Self, Value):     Self ename = Value  Operator overloading in Python Operators in python can be overbaded using dunder	
@ name. Setter  def name (self, value):	
@ name. Setter  def name (self, value):	
@ name Setter  def name (Self, Value):     Self ename = Value  Operator overloading in Python Operators in python can be overbaded using dunder	

by thou can be overloaded using the methods: operators in following -> p, -- add - (p) p1 + p2 -> p1 -- Sub -- (b2) p1 - p2 -> p1 .-- mul-- (b) b, \* p2 -> p1. - truediv -- (p2) p. / p2 -> p, -- floordiv -- (p2) p, 11 p2 Other dunder/magic methods in python \_\_\_Str\_\_() -> used to set what gets displayed upon calling Str Loby) \_\_len\_\_() → used to set what gets displayed upon (alling.\_\_len\_\_() or len(obj)

	EDG3
10	Chapter 11- Practice Set
1	Create a class E2d vector and use it to create another class representing a 3-d vector.
71	further create class Dog from Pets- Add a method bark to class Dog.
3 =	Create a class Employee and add salary and increment properties to it. Write a method salary After Increment method with a sproperty decorator with a setter which changes the Value of increment based on the salary.
4 2	Write a class Complex to represent complex numbers, along with overloaded operators + and * which adds and multiplies them
5 2	Write a class vector representing a vector of n dimension. Overload the + and * operator which calculates the sum and the dot product of them.
62	Writestr() method to print the vector as follows:
	Assume vector of dimension 3 for this problem.

7 =	Override the len- 1) methon on Vector of problem 5 to display the dimension of the Vector.
bu	Trate a does jets from a class Annals of late that the crafe does from Peter Peter that the back to the class Poly from Peter that
0	the wales he had supplyed that a start of the solver out of the solver of the solver out of the solver of the solv
	aligned throughout to suprement lemplex and the suprement of and the supremental advantage of the supremental and the supremental and the supremental and the supremental and the supremental supremen
Lists to	described the of and the dat product
L.	while the control to print the vector
	Plane rector of dimension 3 for other phobles

## Project 2 - The Perfect Guess

We are going to write a program that generates a random number and asks the user to guess it.

If the player's guess is higher than the actual number, the program displays "Lower number please". Similarly if the user's guess is too low, the program prints "higher number please" when the user guesses the correct number, the program displays the number of guesses the player used to arrive at the number.

Hint: Use the random module