

In [1]: #Q1

In [2]: *#Abstraction:- It includes hiding the implementation part and showing only the
#required data and features to the user,data abstraction is nothing but the combina
#of abstract class and interface.We cannot create the obj in the abstractclass and*

In [3]: *#Ex*
Python program demonstrate
abstract base class work
from abc **import** ABC, abstractmethod
class Car(ABC):
 def mileage(self):
 pass

class Tesla(Car):
 def mileage(self):
 print("The mileage is 30kmph")
class Suzuki(Car):
 def mileage(self):
 print("The mileage is 25kmph ")
class Duster(Car):
 def mileage(self):
 print("The mileage is 24kmph ")

class Renault(Car):
 def mileage(self):
 print("The mileage is 27kmph ")

Driver code
t= Tesla ()
t.mileage()

r = Renault()
r.mileage()

s = Suzuki()
s.mileage()
d = Duster()
d.mileage()

The mileage is 30kmph
The mileage is 27kmph
The mileage is 25kmph
The mileage is 24kmph

In [4]: #Q2

In [6]: *#Abstraction:- It is the process of gaining information.It helps hide the informati
#It can be implemented using abstract classes and interfaces.
#The complexities of the implementation are hidden using interface and abstract cla
#Abstraction can be performed using objects that are encapsulated within a single m*

#Encapsulation:-data binding,we try to combine a similiar type of data and function

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# It can be implemented using access modifiers like public, private and protected.d  
#Objects in encapsulation don't need to be in abstraction.
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In [7]: #Q3
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In [9]: #The 'abc' module in Python Library provides the infrastructure for defining custom
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In [10]: #Q4
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In [11]: #In Python, abstraction can be achieved by using abstract classes and interfaces.  
  
#A class that consists of one or more abstract method is called the abstract class.  
#Abstract methods do not contain their implementation.  
#Abstract class can be inherited by the subclass and abstract method gets its defin  
#An abstract class can be useful when we are designing large functions. An abstract  
#Python provides the abc module to use the abstraction in the python program.
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In [12]: #Q5
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In [13]: #Abstract classes cannot be instantiated, but they can be subclassed.  
#When an abstract class is subclassed, the subclass usually provides implementation  
#However, if it does not, then the subclass must also be declared abstract .
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In [ ]:
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