

In [3]: #Q1. What is Abstraction in OOps? Explain with an example.

#ANSWER

#Abstraction is the process of hiding the internal details of an application from the outer world.

#Abstraction is used to describe things in simple terms.

#It's used to create a boundary between the application and the client programs.

#EXAMPLE :-

#Your car is a great example of abstraction. You can start a car by turning the key or pressing the start button.

#You don't need to know how the engine is getting started, what all components your car has.

#The car internal implementation and complex logic is completely hidden from the user.

In [4]: #Q2. Differentiate between Abstraction and Encapsulation. Explain with an example.

#ANSWER

#They both seem very similar but totally different in concept and implementation.

#The major difference between abstraction and encapsulation is that abstraction hides the code complexity while encapsulation hides the data complexity.

In [5]: #Q3. What is abc module in python? Why is it used?

#ANSWER

#The main goal of the abstract base class is to provide a standardized way to test whether an object adheres to a given interface.

#It can also prevent any attempt to instantiate a subclass that doesn't override a particular method in the superclass.

#And finally, using an abstract class, a class can derive identity from another class without any object inheritance.

In [6]: #Q4. How can we achieve data abstraction?

#ANSWER

#We can achieve abstraction in 2 ways :-

#Using Abstract Class

#Using Interface

In [8]: #Q5. Can we create an instance of an abstract class? Explain your answer.

#ANSWER

#NO, because it is abstract, it is not complete, hence it cannot be used.

