assesment6

June 11, 2023

[ ]:
```
#Q1
```

[ ]:
```
'abstraction in the oops is defined as the structure for the object which is␣
 ↪present inside the class'
'abstraction it provide for the other class but cannot instantiaed(means cannot␣
 ↪create the object for itself'
```

[2]:
```
import abc
class myownclass :
    @abc.abstractmethod
    def students_details(self):
        pass
    @abc.abstractmethod
    def students_assignment(self):
        pass
    @abc.abstractmethod
    def students_marks(self):
        pass
```

[5]:
```
class data_science_master(myownclass):
    def students_details(self):
        return 'this will return a students details for data science master'
    def students_assignment(self):
        return 'this will give you a student assignment detail for data science␣
 ↪'
```

[8]:
```
dsm  = data_science_master()
dsm.students_details()
```

[8]:
```
'this will return a students details for data science master'
```

[9]:
```
dsm.students_assignment()
```

[9]:
```
'this will give you a student assignment detail for data science '
```

[ ]:
```
#Q2
```

[ ]:
```
'abstraction  is the fundamental principal in the  oops lang'
'it is used to give the structure for the object which is inside the class'
'as it helps in keeping the code clean reuseablity of the class'
'it consume less memory'
'it gives high level view of the system'
'it helps in managing the complexity of the code'
```

[10]:
```
import abc
class myownclass :
    @abc.abstractmethod
    def students_details(self):
        pass
    @abc.abstractmethod
    def students_assignment(self):
        pass
    @abc.abstractmethod
    def students_marks(self):
        pass
```

[11]:
```
class web_devlopement(myownclass):
    def students_details(self):
        return 'enter the students details for web devlopement'
    def students_assignment(self):
        return ' upload the assignment in github submit only the link'
```

[18]:
```
web = web_devlopement()
```

[19]:
```
web.students_details()
```

[19]:
```
'enter the students details for web devlopement'
```

[21]:
```
web.students_assignment()
```

[21]:
```
' upload the assignment in github submit only the link'
```

[ ]:
```
'encapsulation it is about buliding the data in a single unit and protect the␣
 ↪data from the external access'
'it provide protection for the data '
'the data can also be modified by the user by if it is allowed'
'the modification and external code implementation is easily without distrubing␣
 ↪the internal function'
```

[1]:
```
class bank_account :
    def __init__(self,balance):
        self.__balance= balance
    def deposit(self ,amount):
```

```
        self.__balance = self.__balance + amount
    def withdraw(self , amount):
        if self.__balance >= amount :
            self.__balance = self.__balance - amount
            return True
        else:
            return False
    def get_balance(self):
        return self.__balance
```

[2]:
```
chirag  = bank_account(10000)
```

[3]:
```
chirag.get_balance()
```

[3]: 10000

[4]:
```
chirag.deposit(1000)
```

[5]:
```
chirag.get_balance()
```

[5]: 11000

[7]:
```
chirag.withdraw(1000)
```

[7]: True

[8]:
```
chirag.get_balance()
```

[8]: 10000

[ ]:
```
#Q3
```

[ ]:
```
'abc is the inbuilt  module which contain  the abstraction method etc'
'abc stands for abstract base class it cannot be access directly but just a␣
 ↪blueprint of class
for eg
```

[ ]:
```
'interface abc allows the common interface for the subclass  we can specifies␣
 ↪the method which can de implented'
```

[ ]:
```
'enfourcement of sub class the abc module allows us to enforce certian␣
 ↪behaviour of the subclass it must be implemented for the subclass'
```

[ ]:

```
'polymorphism and code reuse  as abc module is like polymorphism we can use␣
 ↪this module multipe time in diff class it can be implemented by the same␣
 ↪class interface defined by the base class it allows use to generate code␣
 ↪that can work in any class  '
```

[ ]:
```
to use abc module typically we need to import ('import abc') we can use this as␣
 ↪the decorate as a special property @abstractmethod,␣
 ↪@abstractproperty,@abstractclassmethod
```

[ ]:
```
#Q4
```

[ ]:
```
'data abstraction can be accesed through class and object'
```

[ ]:
```
1. 'finding the real data which we want to encapuslate or modifie the data'
```

[ ]:
```
2. 'define the class and the object for the paticular data'
```

[ ]:
```
3. 'encapsulation where the data is cannot be modified by user if he need to␣
 ↪modifiy he need to modifiy it can be done by passing a particular command␣
 ↪which is done in programming'
```

[ ]:
```
4.'define the method which allows us to encapsulate the object method with in␣
 ↪the class which can allow the pubic interface keeping the privite data␣
 ↪hidden'
```

[ ]:
```
5.'creating the objetc class by calling the class constructor as it represent␣
 ↪the speific instance for thr class
```

[ ]:
```
6.'the data which is need accesed through the public method with the defined␣
 ↪method'
```

[ ]:
```
#Q5
```

[ ]:
```
'no we cannot create any instance of class because the abstract class it servs␣
 ↪the blueprint as it cannot instantiated directly'
```

[ ]:
```
for eg
```

[ ]:
```
'in python we use the inherit abc module and the abc.ABC subclass to define the␣
 ↪abstract class now you need to get inhetrit from abc.ABC subclass so we use␣
 ↪dectorater to mark such function @abstract method'
```

[ ]:
```
'basilly in simple word instance which is need to be created immediately eg␣
 ↪object of car or def car whereas the abstract is just the blueprint which␣
 ↪helps use to matain a neat structue'
```

[ ]:
```

```

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