LAB#4

Example#1:

Write a program in order to explain the concept of class method and instance methods.

Solution:

```
1
2   class teacher:
3       job='teaching'
4
5       def __init__(self,name,city):
6           self.a=name
7           self.b=city
8       def show(self): # like init(), show() is an instance method like dont call automatically
9           print(self.a,self.b)
10      @classmethod
11      def clzfun(cls):
12       print(cls.job)
13       '''#here cls is essential to get
14      the value passed by teacher to refer class object'''
15
16  t1=teacher('noreen','dsa')
17  t2=teacher('bano','CompVision')
18  t1.show()
19  t2.show()
20  teacher.clzfun() #clzfun(teacher) will be executed,as the teacher refers to the class object
21
```

Result:

```
noreen dsa
bano CompVision
teaching
```

Example#2:

Create a class “teacher” with attributes teachername,teachersubject and teachercity. Also define an instance method init() to access and then show the properties of each teacher.

Solution:

```
class teacher:
    def __init__(self,teachername=None,teachersubject=None,teachercity=None):
        self.teachername=teachername
        self.teachersubject=teachersubject
        self.teachercity=teachercity

maam_saima=teacher('Saima Muhammad','Linear Algebra','Skardu')
maam_noreen=teacher()
print(maam_saima.teachersubject,maam_saima.teachercity)
print(maam_saima.teachername)
print(maam_noreen.teachername,maam_noreen.teachersubject,maam_noreen.teachercity)
```

Result:

```
Linear Algebra Skardu
Saima Muhammad
None None None
```

Example#3: Consider the above example#2 lab4 and suppose if you have to only assign and then show the subject name of some particular instance, name and city of some other instance. How can you modify the above program according to your requirement?

Solution:

You have to define some more instance methods:

```
1
2   class teacher:
3       def __init__(self,teachername=None,teachersubject=None,teachercity=None):
4           self.teachername=teachername
5           self.teachersubject=teachersubject
6           self.teachercity=teachercity
7       def set_tname(self,teachername):
8           self.teachername=teachername
9       def set_tsub(self,teachersubject):
10          self.teachersubject=teachersubject
11      def set_tcity(self,teachercity):
12          self.teachercity=teachercity
13      def get_tname(self):
```

```
14          return self.teachername
15      def get_tsub(self):
16          return self.teachersubject
17      def get_tcity(self):
18          return self.teachercity
19
20  maam_saima=teacher('Saima','Linear Algebra','Skardu')
21  maam_noreen=teacher()
```

```
22  sir_jawad=teacher('Jawad Usman','ML','Islamabad')
23  print(maam_saima.teachername,maam_saima.teachersubject,maam_saima.teachercity)
24  maam_noreen.set_tname('noreen')
25  print(maam_noreen.get_tname())
26  maam_noreen.set_tcity('Skardu')
27  print(maam_noreen.get_tcity())
28  print(sir_jawad.get_tname())
29  maam_noreen.set_tsub('DSA')
30  print(maam_noreen.get_tsub())
```

Result:

```
Saima Linear Algebra Skardu
noreen
Skardu
Jawad Usman
DSA
```

Class Assignment

Q: Repeat the example#3 lab4 without using the init () function.

Result: