ASSIGNMENT 2.1

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0.2 CLASS: SY MCA

0.3 ROLL NO 54

1.Write a program that has a class circle.Use a class variable to define the value of constant PI. Use the class variable to calculate area and circumference of circle with specified radius.

[4]:
```
class circle():
    def __init__(self,radius):
        self.radius=radius
    def area(self):
        return 3.14 * (self.radius**2)
    def circumference(self):
        return 2 * 3.14 * (self.radius)
```

[5]:
```
r=int(input("Enter radius of circle: "))
obj=circle(r)
print("Area of circle:",round(obj.area(),2))
print("Perimeter of circle:",round(obj.circumference(),2))
```

```
Area of circle: 50.24
Perimeter of circle: 25.12
```

2.WAP that has class student that stores roll number, name and marks(in three subjects) of the students.Display the information(roll number,name and total marks stored about the student

[6]:
```
class Student:
    marks = []
    def getinfo(self, rollno, name, m1, m2, m3):
        Student.rollno = rollno
        Student.name = name
        Student.marks.append(m1)
        Student.marks.append(m2)
        Student.marks.append(m3)

    def showinfo(self):
        print ("Roll Number = ", Student.rollno)
```

```
        print ("Name = ", Student.name)
        print ("Marks = ", Student.marks)
        print ("Total Marks = ", self.total())
        print ("Average Marks = ", self.average())

    def total(self):
        return (Student.marks[0] + Student.marks[1] +Student.marks[2])

    def average(self):
        return ((Student.marks[0] + Student.marks[1] +Student.marks[2])/3)

rno = int (input("Enter roll number - "))
name = input("Enter Name - ")
m1 = int (input("Enter marks scored in First subject - "))
m2 = int (input("Enter marks scored in Second subject - "))
m3 = int (input("Enter marks scored in Third subject - "))

s1 = Student()
s1.getinfo(rno, name, m1, m2, m3)
s1.showinfo()
```

```
Roll Number =  54
Name =  Shubham
Marks =  [70, 80, 90]
Total Marks =  240
Average Marks =  80.0
```

3.Write a class rectangle that has attributes length and breadth and a method area of the rectangle.

[7]:
```
class rectangle():
    def __init__(self,breadth,length):
        self.breadth=breadth
        self.length=length
    def area(self):
        return self.breadth*self.length
a=int(input("Enter length of rectangle: "))
b=int(input("Enter breadth of rectangle: "))
obj=rectangle(a,b)
print("Area of rectangle:",obj.area())
```

```
Area of rectangle: 30
```

4.WAP that has class numbers with values stored. With values stored in a list. Write a class method to find the largest number.

[8]:
```
class number:
  def _init_(self,list):
```

```
    self.list = list
ob = number()
ob = [45, 73, 37, 22, 15]
ob.sort()
print("Largest number in the list is ", ob[-1])
```

```
Largest number in the list is  73
```

Q5 Write a class that stores a string and all its detail like uppercase characters, vowels, consonants, spaces and show the statistics of a string.

[2]:
```
class stringer:
        def __init__(self, string):
                self.string = string
                self.vowels=list()
                self.upper=list()
                self.consonants=list()
                self.spaces=0

        def isUpper(self):
            for i in self.string:
                if i.isupper():
                    self.upper.append(i)
        def Vowels(self):
            for i in self.string:
                if i in ['a','e','i','o','u']:
                    self.vowels.append(i)
        def Consonants(self):
             for i in self.string:
                if i not in ['a','e','i','o','u',' ']:
                    self.consonants.append(i)
        def Spaces(self):
            for  i in self.string:
                if i in [' ']:
                    self.spaces+=1

        def stats(self):
            self.isUpper()
            self.Vowels()
            self.Consonants()
            self.Spaces()
            print("Uppercase letters are:"+str(self.upper))
            print("Vowels in the strings are:"+str(self.vowels))
            print("consonants in the strings are:"+str(self.consonants))
            print("no of spaces included in the string are:"+str(self.spaces))
```

[3]:
```
myString = stringer("Shubham Takankhar")
myString.stats()
```

```
Uppercase letters are:['S', 'T']
Vowels in the strings are:['u', 'a', 'a', 'a', 'a']
consonants in the strings are:['S', 'h', 'b', 'h', 'm', 'T', 'k', 'n', 'k', 'h',
'r']
no of spaces included in the string are:1
```

[ ]: