First Semester MCA (2020 SCHEME) Regno: ICE20MCA-2089

Batch B Practical Examination JUNE-JULY 2021 Date : 02-07-2021

Set D 20MCA 131 Programming Lab Time : 1:00 to 4:00

1) List ordinal value of each element of a word

Ans: ~~list = ['python', 'java', 'linux']~~

~~print("The original list:\n", str(list))~~.

Ans: list : ['python', 'java', 'linux']

```
print("The original list :\n", str(list))
res = [ord(ele) for sub in list for ele in sub]
print("The Ascii list is :\n", str(res))
```

Predicted output

The original list : ['python', 'java', 'linux']

The Ascii list is : [112, 121, 116, 104, 111, 110, 106, 97, 97, 118, 105, 108, 110, 117, 120]

Output

The original list : ['python', 'java', linux']

The Ascii list is :

[112, 121, 116, 104, 111, 110, 106, 97, 118, 97, 108, 105, 110, 117, 120]

2) Create a package graphics with modules rectangle, circle and sub-package 3D-graphics with modules cuboid and sphere. Include methods to find area and perimeter of respective figures in each module. Write programs that find the area and perimeter of figures by different importing statements.

Ans :

graphics - circlefunction.py

```
def circlearea(r):
area = 3.14*r*r
return area

def circleperimeter(r):
perimeter = 2* 3.14 *r
return perimeter
```

graphics - rectfunction.py

```
def rectarea(l,w):
 area = l*w
return area
def rectperimeter(l,w):
perimeter = 2*(l+w)
retuen perimeter
```

graphics - dgraphics - cuboidfunction.py

```
def cuboidarea(l,w,h):
area = 2*(l*w+w*h+h*l)
retuen area
def cuboidperimeter(l,w,h):
perimeter = 4*(l+w+h)
return perimeter
```

graphics - dgraphics - spherefunction.py

```
def spherearea(r):
area = 4*3.14*r*r
return area
```

areaperimeter.py

```
def sphereperimeter(r):
perimeter = 2*3.14*r
return perimeter

from graphics.rectfunction import *
from graphics.circlefunction import *
```

```
from graphics.dgraphics.cuboidfunction import *
from graphics.dgraphics.spherefunction import *

length = float(input("Enter length"))
width = float(input("Enter width"))
print("Rectangle Area =", rectarea(length, width))
print("Rectangle Perimeter =", rectperimeter(length, width))

radius = float(input("Enter the radius"))
print("Circle Area =", circlearea(radius))
print("circle perimeter =", circleperimeter(radius))
length = float(input("Enter length"))
width = float(input("Enter width"))
height = float(input("Enter height"))
print("cuboid area =", cuboidarea(length, width, height))
print("cuboid perimeter =", cuboidperimeter(length, width, height))
radius = float(input("Enter radius"))
print("sphere area =", spherearea(radius))
print("sphere perimeter =", sphereperimeter(radius))
```

Predicted Output

Enter length = 5
Enter width = 3
Rectangle area = 15
Rectangle perimeter = 16

Enter radius = 2
circle area = ~~6.28~~ 12.56
circle perimeter = 12.56

3.14 x
4
12.56

Enter length = 5
Enter width = 2
Enter height = 6

cuboid area = 104
cuboid perimeter = 52

Enter radius = 7
sphere area = 615.44
Sphere perimeter = 43.96.

Output

Enter the length : 5
Enter the width : 2
Rectangle area = 10.0
Rectangle perimeter = 14.0
Enter the radius : 6
Circle Area = 113.039999..
Circle perimeter = 37.68
Enter the ~~radius~~ length : 10
Enter the width : 4
Enter the height : 8
Cuboid area = 304.0
Cuboid perimeter = 88.0
Enter radius : 7
Sphere Area = 615.44
Sphere perimeter = 43.96