

First Semester MCA (2020 Scheme)

RegNo: ICE20MCA-2026

Practical Examination June-July 2021

Batch B

20MCA131 PROGRAMMING LAB

Set A.

Date: 02-07-2021

Time: 1:00pm - 4:00pm

1. List ordinal value of each element of a word.

Stepwise Algorithm

Step 1: Start

Step 2: ~~Assie~~ Declare and ^{input} ~~assign~~ value to the variable.

Step 3: print the input

Step 4: Ordinal elements for sub in list 1 for element in sub.

Step 5: print the ascii list.

Stop : Stop

Program:

```
list1 = ['shree', 'lee', 'reshi']
```

```
print("The original list: \n", str(list1))
```

```
res = [ord(ele) for sub in list1 for ele in sub]
```

```
print ("The ascii list is : \n " + str(res))
```

Expected Output :

The original list :

['shee', 'lee', 'reshi']

The ascii list is:

[115, 104, 101, 101, 108, 101, 101, 114, 101, 115, 104,
105]

OUTPUT

The original list :

['shee', 'lee', 'reshi']

The ascii list is

[115, 104, 101, 101, 108, 101, 101, 114, 101, 115, 104, 105]

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 figure in each module. Write programs that find area and perimeter of figures by different importing statements.

Program.

Graphics.

Function \rightarrow ~~circlefunction.py~~ Graphics \rightarrow CircleAPfunction.py

```
import math
```

```
def circlearea(r):
```

```
    area = math.pi * r * r
```

```
    return area
```

```
def circleperimeter(r):
```

```
    perimeter = 2 * math.pi * r
```

```
    return perimeter
```

~~@sphere~~

~~rectfunction.py~~ Graphics \rightarrow RectangleAPFunction.py

```
def rectarea(l, w):
```

```
    area = l * w
```

```
    return area
```

```
def rectperimeter (l,w) :
```

```
    perimeter = 2 * (l+w)
```

```
    return perimeter
```

Graphics → Dgraphics → ~~cube function.py~~ cuboidfunction.py

```
def cuboidarea (l,w,h) :
```

```
    area = 2 * (l * w + w * h + h * l)
```

```
    return area
```

```
def cuboid perimeter (l,w,h) :
```

```
    perimeter = 4 * (l + w + h)
```

```
    return perimeter
```

Graphics → Dgraphics → ~~Sphere function.py~~ SphereAPfunction.py

```
def spherearea (r) :
```

```
    area = 4 * 3.14 * r * r
```

```
    return area
```

```
def sphereperimeter (r) :
```

```
    perimeter = 2 * 3.14 * r
```

```
    return perimeter
```

~~from coneperimeter.py~~

graphicsmain.py

from graphics.^{Rectangle AP}~~rectangle~~function.py import *

from graphics.^{AP}circlefunction.py import *

from graphics.dgraphics.^{AP}cuboidfunction.py import *

from graphics.dgraphics.^{AP}spherefunction.py import *

~~l = int~~ l = int(input("enter length of rectangle"))

~~w = int~~ w = int(input("enter breadth of rectangle"))

print("area = " ~~rectarea~~ rectarea(l,w))

print("perimeter = ", rectperimeter(l,w))

r = int(input("enter the radius of circle"))

print(~~area =~~ "circle area = ", circlearea(r))

print("circle perimeter = ", circleperimeter(r))

r = int(input("enter the radius of sphere"))

print("area of sphere", sphere(~~radius~~)area(r))

print("perimeter of sphere", sphereperimeter(r))

l = int(input("enter the length of cuboid"))

w = ~~input~~ int(input("enter the breadth of cuboid"))

h = int(input("enter the height of cuboid"))

print("area of cuboid", cuboidarea(l,w,h))

print("perimeter of cuboid", cuboidperimeter(l,w,h))

Expected Output

enter length of rectangle 14

enter breadth of rectangle 6

area = 24

perimeter = 20

enter the radius of circle 6

Circle area 113.039

Circle perimeter 37.68

enter the radius of sphere 4

area of sphere 200.96

perimeter of sphere 267.946

enter the edge of cuboid 7

enter the length of cuboid 4

enter the breadth of cuboid 9

enter the height of cuboid 7

Area of cuboid 96

Perimeter of cuboid 80

OUTPUT

enter length of rectangle 14

enter breadth of rectangle 6

area = 24

perimeter = 20

Enter the radius of circle 6

Circle area 113.0399999

Circle perimeter 37.68

enter the radius of sphere 4

area of sphere 200.96

perimeter of sphere 267.946

enter the edge of cuboid 7

enter the length of cuboid 4

enter the breadth of cuboid 9

enter the height of cuboid 7

area of cuboid 96

perimeter of cuboid 80.