Batch B
SET-1

First Semester MCA (2020 Scheme) Regno: ICE20MCA-2022
PRATICAL EXAMINATION JUNE-JULY Date: 02-07-21
2021 Time: 1.00-4.00

20MCA131 PROGRAMMING LAB

1. List ordinal value of each element of a word
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 finds area and perimeter of figures by different importing statements.

Answer

1. Program

```
list1 = ['shee', 'lee', 'reshi']
print("The ~~ordin~~ 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]

2. Program

Function

```
import math
def circle area(r):
area = math.Pi * r ** 2
return area
def circleperimeter(r):
perimeter = 2 * math.Pi * r
return perimeter
def spherearea(r):
area = 4 * math.Pi * r ** 2
return area
def sphereperimeter(r):
perimeter = (4/3) * math.Pi * r ** 3
return perimeter
def cuboidarea (l, w, h):
area = (2*l*w) + (2*l*h) + (2*h*w)
return area
def cuboidperimeter(l, w, h):
perimeter = 4 * (l+w+h)
return perimeter
From Area perimeterfns import *
while True:
```

```
Print ("--- MENU ---")
Print ("\n 1. circle")
Print ("\n 2. sphere")
Print ("\n 3. cuboid")
Print ("\n 4. Exit")
choice = input ("Enter your choice :")
If choice == '1':
~~r1 = int (input ("Enter your choice :"))~~
~~If choice ==~~
 r1 = int (input ("Enter radius :"))
 area = circlearea (r1)
 Print ("\n Area is :" + str(area))
 perimeter = circleperimeter (r1)
 Print ("\n perimeter is :" + str (perimeter))
elif choice == '2':
  r1 = int (input ("Enter radius :"))
 area = spherearea (r1)
 print ("\n Area is :" + str (area)
 Perimeter = sphereperimeter (r1)
 Print ("\n perimeter is :" + str (perimeter))
 elif choice == '3':
   l1 = int (input ("Enter length :"))
   w1 = int (input ("Enter width :"))
   h1 = int (input ("Enter height :"))
```

```
area = cuboidarea(l1, w1, h1)
Print("In Area is : "+str(area))
perimeter = cuboidperimeter(l1, w1, h1)
Print("In Perimeter is : "+str(perimeter))
elifchoice == '4':
 quit()
 else:
Print("Invalid choice")
```

Expected output

```
--MENU--
1. circle
2. sphere
3. cuboid
4. Exit
Enter your choice : 1
Enter radius : 4
Area is : 50.265
Perimeter is : 25.13
--MENU--
1. circle
2. sphere
3. cuboid
4. Exit
Enter your choice : 2
Enter radius : 4
```

Area is : 201.06
Perimeter is : 268.08

--MENU--

1. circle
2. sphere
3. cuboid
4. Exit

Enter your choice : 3
Enter length : 4
Enter width : 3
Enter height : 2
Area is : 52
perimeter is : 36

--MENU--

1. circle
2. sphere
3. cuboid
4. Exit

Enter your choice : 4

Obtained output (program - 1)

Output-1

The original list :
['shee', 'lee', 'reshi']
The ascii list is :

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

output-2

The original list :

['abi', 'jio', 'dam']

The ascii list is :

[97, 98, 105, 106, 105, 111, 114, 97, 109]

Algorithm

step 1 : start

step 2 : List some words

step 3 : Print the original list

step 4 : ordinal elements for sub in list 1 for elements in sub

step 5 : print the ascii list

step 6 : stop

obtained output (program 2)

1. circle
2. ~~cuboid~~ sphere
3. ~~sphere~~ cuboid
4. Quit

enter choice : 1

enter radius : 4

area is : 50.265482457436 69

perimeter is : 25.132741228718345

1. circle
2. sphere
3. cuboid
4. quit

enter choice : 2

enter radius : 4

area is : 804.24771

perimeter is : 268.08257

1. circle
2. sphere
3. cuboid
4. quit

enter choice : 3

enter length : 4

enter width : 3

enter height : 2

area is : 52

perimeter is : 36

1. circle
2. sphere
3. cuboid
4. quit

enter your choice : 4