



Q1. Write a Python program to display the current date and time.

```
In [30]: import datetime as dt
now=dt.datetime.now()
print("Current date & time : "+now.strftime("%Y-%m-%d %H:%M:%S"))
```

Current date & time : 2023-04-09 06:52:55

Q2. Write a Python program that calculates the area of a circle based on the radius entered by the user

```
In [31]: from math import pi
r=float(input("Enter the radius: "))
a=pi*r**2
ans=round(a,2)
print("Area of the circle is: "+str(a))
print("Area of the circle is: "+str(ans))
```

Enter the radius: 4
Area of the circle is: 50.26548245743669
Area of the circle is: 50.27

Q3. Write a Python program that accepts the user's first and last name and prints them in reverse order with a space between them.

```
In [32]: fname = input("Input your First Name : ")
lname = input("Input your Last Name : ")
print ("Hello " + lname + " " + fname)
```

Input your First Name : Bhuppi
Input your Last Name : Dhami
Hello Dhami Bhuppi

Q4. Write a Python program to display the first and last colors from the following list.

```
In [33]: color_list = ["Red","Green","White" ,"Black"]
color_list = ["Red","Green","White" ,"Black"]
print( "%s %s"%(color_list[0],color_list[-1]))
```

Red Black

Q5. Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn.

```
In [34]: a = int(input("Input an integer : "))
n1 = int( "%s" % a )
n2 = int( "%s%s" % (a,a) )
n3 = int( "%s%s%s" % (a,a,a) )
print (n1+n2+n3)
```

Input an integer : 4
492

Q6. Create a Numpy array object

```
In [35]: import numpy as np
arr = np.array([1, 2, 3, 4, 5])
print(arr)
print(type(arr))
```

[1 2 3 4 5]
<class 'numpy.ndarray'>

Q7. Create a 2-D array containing two arrays with the values 1,2,3 and 4,5,6

```
In [36]: import numpy as np
arr = np.array([[1, 2, 3], [4, 5, 6]])
print(arr)
```

[[1 2 3]
[4 5 6]]

Q8. Create a 3-D array with two 2-D arrays, both containing two arrays with the values 1,2,3 and 4,5,6:

```
In [37]: import numpy as np
arr = np.array([[[1, 2, 3], [4, 5, 6]], [[1, 2, 3], [4, 5, 6]]])
print(arr)
```

[[[1 2 3]
[4 5 6]]

[[1 2 3]
[4 5 6]]]

Q9. Check the dimensions of the arrays

```
In [38]: import numpy as np
a = np.array(42)
b = np.array([1, 2, 3, 4, 5])
c = np.array([[1, 2, 3], [4, 5, 6]])
d = np.array([[[1, 2, 3], [4, 5, 6]], [[1, 2, 3], [4, 5, 6]]])
print(a.ndim)
print(b.ndim)
```

```
print(c.ndim)
print(d.ndim)
```

```
0
1
2
3
```

Q10. Access the element on the first row, second column:

```
In [39]: import numpy as np
arr = np.array([[1,2,3,4,5], [6,7,8,9,10]])
print('2nd element on 1st row: ', arr[0, 1])
```

2nd element on 1st row: 2

Q11. Access the element on the 2nd row, 5th column:

```
In [40]: import numpy as np
arr = np.array([[1,2,3,4,5], [6,7,8,9,10]])
print('5th element on 2nd row: ', arr[1, 4])
```

5th element on 2nd row: 10

Q12. Descriptive Analysis

```
In [42]: import scipy as sp
import numpy as np
nums=np.random.randint(1,20,size=(1,18))[0]
print("Data :", nums)
print("Get Descriptive Statistics")
print("Mean :",np.mean(nums))
print("Median :",np.median(nums))
from scipy import stats, optimize, interpolate
print("Mode :",sp.stats.mode(nums,keepdims=True))
print('Standard Deviation :',np.std(nums))
print('Variance :',np.var(nums))
print('Skew :',sp.stats.skew(nums))
print('Kurtosis :',sp.stats.kurtosis(nums))
```

```
Data : [11  7 12 13 17 16 17  9  2 13  3  8  7  7 18 18 18 16]
get descriptive stats
Mean : 11.777777777777779
Median : 12.5
Mode : ModeResult(mode=array([7]), count=array([3]))
Standard Deviation : 5.126787553359701
Variance : 26.28395061728395
Skew : -0.35142484023194304
Kurtosis : -1.107948765410717
```