

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

```
import datetime
now = datetime.datetime.now()
print ("Current date and time : ")
print (now.strftime("%Y-%m-%d %H:%M:%S"))
```

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

```
from math import pi
r = float(input ("Input the radius of the circle : "))
print ("The area of the circle with radius " + str(r) + " is: " + str(pi * r**2))
```

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

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

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

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

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

```
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)
```

6) Create a Numpy array object

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

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

```
import numpy as np

arr = np.array([[1, 2, 3], [4, 5, 6]])

print(arr)
```

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

```
import numpy as np

arr = np.array([[[1, 2, 3], [4, 5, 6]], [[1, 2, 3], [4, 5, 6]]])

print(arr)
```

9) Check the dimensions of the arrays

```
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)
```

10) Access the element on the first row, second column:

```
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])
```

11) Access the element on the 2nd row, 5th column:

```
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])
```

12. Descriptive Statistics

```
import scipy as sp
```

```
import numpy as np
```

```
nums=np.random.randint(1,20,size=(1,18))[0]
```

```
print("Data :", nums)
```

```
"""get descriptive stats
```

```
"""
```

```
print("Mean :",sp.mean(nums))
```

```
print("Median :",sp.median(nums))
```

```
from scipy import stats, optimize, interpolate
```

```
print("Mode :",sp.stats.mode(nums))
```

```
print('standard deviation',sp.std(nums))
```

```
print('variance',sp.var(nums))
```

```
print('Skew',sp.stats.skew(nums))
```

```
print('Kurtosis',sp.stats.kurtosis(nums))
```