

**Assignment -1**  
**BASIC PYTHON**

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

**Question-1:**

**Split the given string s="Hi there Sam!"**

**Solution:**

```
s="Hi there Sam!"  
x=s.split()  
print(x)
```

```
[ ] s = "Hi there Sam!"  
  
[ ] s="Hi there Sam!"  
    x=s.split()  
    print(x)  
  
['Hi', 'there', 'Sam!']
```

**Question-2:**

Use .format() to print the string

planet="earth"

diameter=12742

Output should be: The diameter of the earth is 12742 kilometers.

**Solution:**

```
s = "The diameter of {planet} is {diameter} kilometres.".format(planet = "Earth", diameter = 12742)  
print(s)
```

```
[ ] planet = "Earth"  
    diameter = 12742  
  
[ ] s = "The diameter of {planet} is {diameter} kilometres.".format(planet = "Earth", diameter = 12742)  
    print(s)  
  
The diameter of Earth is 12742 kilometres.
```

**Question-3:**

**In this nest dictionary grab the word "hello"**

```
d = {'k1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

**Solution:**

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
x=d['k1'][3]['tricky'][3]['target'][3]
```

```
print (x)
```

```
[ ] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
[ ] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
    x=d['k1'][3]['tricky'][3]['target'][3]
```

```
    print (x)
```

  

```
hello
```

**Question-4:****4.1 Create an array of 10 zeros?****Solution:**

```
import numpy as np
```

```
array=np.zeros(10,dtype='int')
```

```
print("An array of 10 zeros:",array)
```

**4.2 Create an array of 10 fives?****Solution:**

```
import numpy as np
```

```
array=np.ones(10,dtype='int')*5
```

```
print("An array of 10 fives:",array)
```

```
[ ] import numpy as np
```

```
    array=np.zeros(10,dtype='int')
```

```
    print("An array of 10 zeros:",array)
```

  

```
An array of 10 zeros: [0 0 0 0 0 0 0 0 0 0]
```

  

```
[ ] import numpy as np
```

```
    array=np.ones(10,dtype='int')*5
```

```
    print("An array of 10 fives:",array)
```

  

```
An array of 10 fives: [5 5 5 5 5 5 5 5 5 5]
```

#### Question-5:

Create an array of all the even integers from 20 to 35

#### **Solution:**

```
import numpy as np
x=np.arange(20,35,2)
print(x)
```

```
[ ] import numpy as np
    x=np.arange(20,35,2)
    print(x)

[20 22 24 26 28 30 32 34]
```

#### Question-6:

Create a 3x3 matrix with values ranging from 0 to 8

#### **Solution:**

```
import numpy as np
x=np.arange(0,9).reshape(3,3)
print(x)
```

```
[ ] import numpy as np
    x =np.arange(0,9).reshape(3,3)
    print(x)

[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

#### Question-7:

Concatenate a and b

```
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])
```

#### **Solution:**

```
import numpy as np
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
arr = np.concatenate((a,b))
print("before concatenation")
```

```
print("a \n",a)
print("b \n",b)
print("after concatenation \n",arr)
```

```
[ ] import numpy as np
    a = np.array([1, 2, 3])
    b = np.array([4, 5, 6])
    arr = np.concatenate((a,b))
    print("before concatenation")
    print("a \n",a)
    print("b \n",b)
    print("after concatenation \n",arr)
```

```
before concatenation
a
[1 2 3]
b
[4 5 6]
after concatenation
[1 2 3 4 5 6]
```

#### Question-8:

Create a data frame with 3 rows and 2 columns

**Solution:**

```
import pandas as pd

data = [['tom', 10], ['nancy', 15], ['john', 18]]

df = pd.DataFrame(data, columns=['Name', 'Age'])

print(df)
```

```
[ ] import pandas as pd
```

```
[ ] import pandas as pd
    data = [['tom', 10], ['nancy', 15], ['john', 18]]
    df = pd.DataFrame(data, columns=['Name', 'Age'])
    print(df)
```

	Name	Age
0	tom	10
1	nancy	15
2	john	18

### Question-9:

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

#### **Solution:**

```
import pandas as pd
```

```
x=pd.date_range('1st Jan, 2023','10th Feb, 2023')
```

```
print("series of dates\n",x)
```

```
[ ] import pandas as pd
x=pd.date_range('1st Jan, 2023','10th Feb, 2023')
print("series of dates\n",x)

series of dates
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
              '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
              '2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',
              '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',
              '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',
              '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',
              '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',
              '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',
              '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',
              '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',
              '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

### Question-10:

Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

#### **Solution:**

```
import pandas as pd
```

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
df = pd.DataFrame(lists, columns=['A', 'B','C'])
```

```
print(df)
```

```
[ ] import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns=['A', 'B', 'C'])
print(df)
```

	A	B	C
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24