

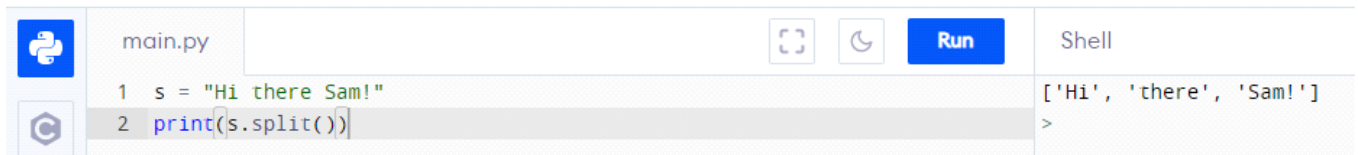
Assignment -1
Python Programming

Assignment Date	19 September 2022
Student Name	Ms.Madhumitha.M
Student Roll Number	113219071016
Maximum Marks	2 Marks

Question-1:

Split this string.

Solution:	
	<code>s = "Hi there Sam!"</code>
	<code>print(s.split())</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 s = "Hi there Sam!"
2 print(s.split())

Run Shell
['Hi', 'there', 'Sam!']
>
```

Question-2:

Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

Solution:	
	<code>planet = "Earth"</code>
	<code>diameter = 12742</code>
	<code>print("The diameter of {} is {} kilometers.".format(planet,diameter))</code>
	<code>#-----#</code>
	<code>#-----#</code>



main.py

Run

```

1 planet = "Earth"
2 diameter = 12742
3 print("The diameter of {} is {} kilometers.".format(planet,diameter))

```


Shell

The diameter of Earth is 12742 kilometers.
> |

Question-3:

In this nest dictionary grab the word "hello"

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



main.py

Run

```

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

```


Shell

hello
> |

Question-4.1:

Create an array of 10 zeros?

Solution:	
	import numpy as np
	x=np.zeros(10)
	print(x)
	#-----#
	#-----#



main.py

Run

```

1 import numpy as np
2 print(np.zeros(10))
3

```

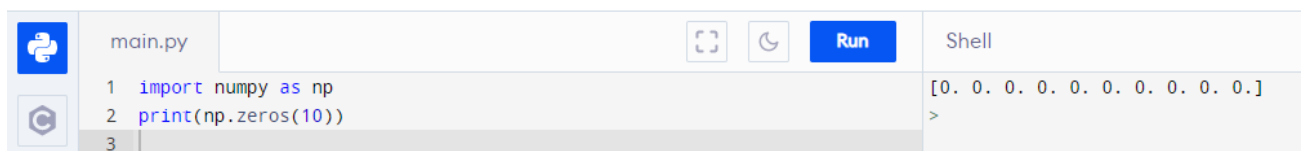
Shell

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
>

Question-4.2:

Create an array of 10 fives?

Solution:	
	<code>import numpy as np</code>
	<code>x=np.ones(10)*5</code>
	<code>print(x)</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 import numpy as np
2 print(np.zeros(10))
3
```

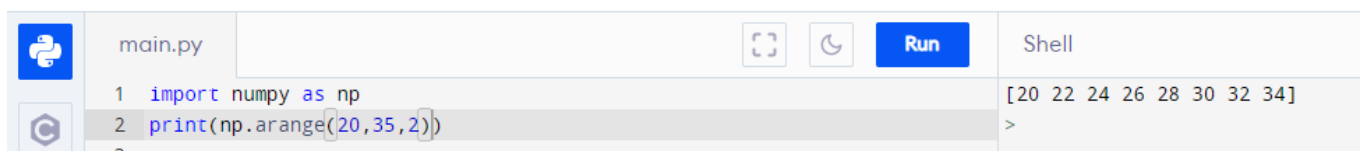
Shell

```
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
>
```

Question-5:

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

Solution:	
	<code>import numpy as np</code>
	<code>x=np.arange(20,36,2)</code>
	<code>print(x)</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 import numpy as np
2 print(np.arange(20,35,2))
3
```

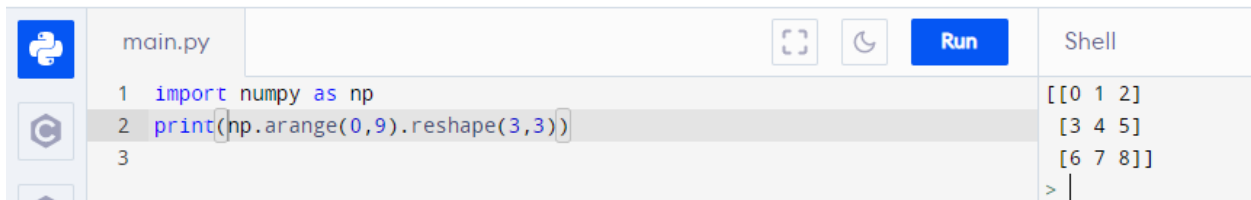
Shell

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

Question-6:

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

Solution:	
	<code>import numpy as np</code>
	<code>x=np.arange(0,9).reshape(3,3)</code>
	<code>print(x)</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 import numpy as np
2 print(np.arange(0,9).reshape(3,3))
3
```

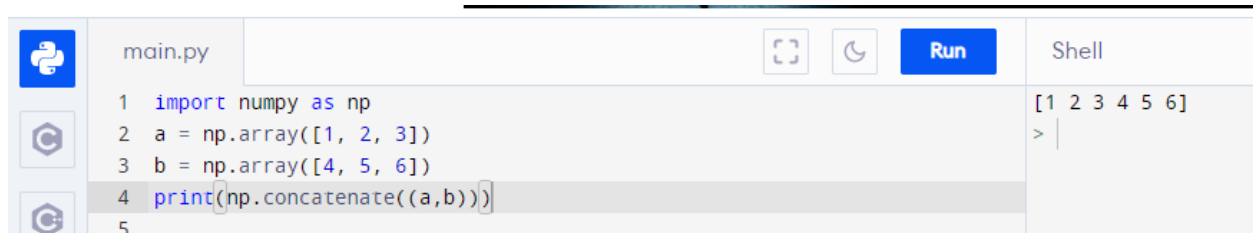
```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
> |
```

Question-7:

Concatenate a and b

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

Solution:	
	<code>a=np.array([1,2,3])</code>
	<code>b=np.array([4,5,6])</code>
	<code>c=np.concatenate((a,b))</code>
	<code>print(c)</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 import numpy as np
2 a = np.array([1, 2, 3])
3 b = np.array([4, 5, 6])
4 print(np.concatenate((a,b)))
5
```

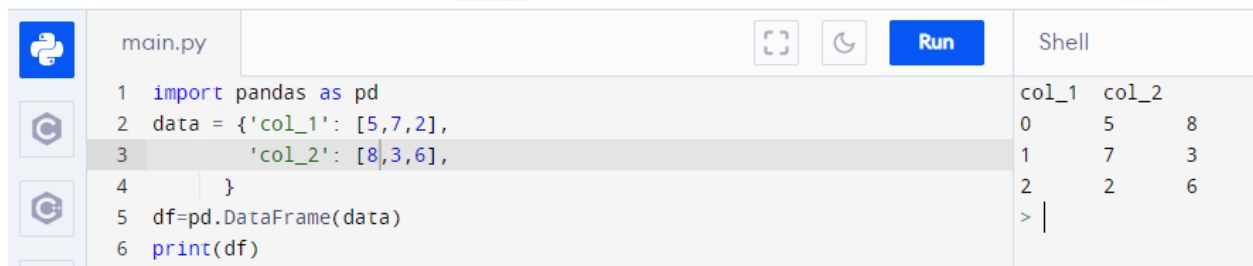
```
[1 2 3 4 5 6]
> |
```

Question-8:

Pandas

Create a dataframe with 3 rows and 2 columns

Solution:	
	<code>import pandas as pd</code>
	<code>d={'a':[1,2,3],</code> <code> 'b':[4,5,6]}</code>
	<code>y=pd.DataFrame(d)</code>
	<code>print(y)</code>
	<code>#-----#</code>
	<code>#-----#</code>



```
main.py
1 import pandas as pd
2 data = {'col_1': [5,7,2],
3         'col_2': [8,3,6],
4         }
5 df=pd.DataFrame(data)
6 print(df)
```

Shell

```
col_1  col_2
0      5      8
1      7      3
2      2      6
> |
```

Question-9:

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

Solution:	
	<code>import pandas as pd</code>
	<code>x=pd.date_range(start='1-1-2023',</code> <code> end='2-10-2023')</code>
	<code>for val in x:</code>
	<code> print(val)</code>
	<code>#-----#</code>
	<code>#-----#</code>

```
main.py
1 import pandas as pd
2 date=pd.date_range(start='01.01.2023',end='10.02.2023')
3 print(date)
```

```
Shell
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',
              ...,
              '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
              '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
              '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, freq='D')
```

Question-10:

Create 2D list to DataFrame

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

Solution:	
	<pre>lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]</pre>
	<pre>x=pd.DataFrame(lists)</pre>
	<pre>print(x)</pre>
	<pre>#-----#</pre>
	<pre>#-----#</pre>

```
main.py
1 import pandas as pd
2 lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
3 df=pd.DataFrame(lists)
4 print(df)
```

```
Shell
0    1    2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
>
```