

Assignment -1
Python Programming

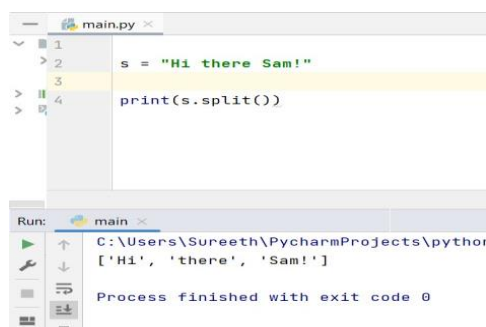
Assignment Date	19 September 2022
Student Name	Mr. G.Bala Viswanath
Student Roll Number	113219071008
Maximum Marks	2 Marks

Question-1:

1. Split this string

Solution:

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



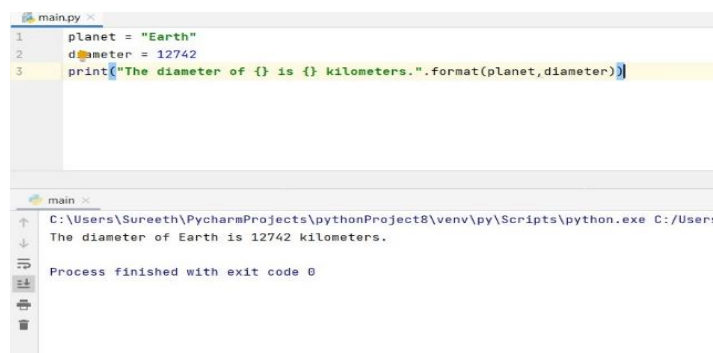
Question-2:

2. Use .format() to print the following string.

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

Solution:

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



3. In this nest dictionary grab the word "hello"

Solution:

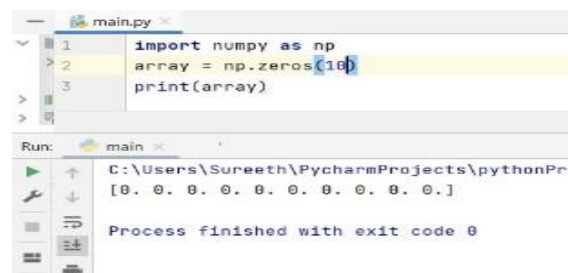
```
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
print(d['k1'][3]['tricky'][3]['target'][3])
```



4.1 Create an array of 10 zeros?

Solution:

```
import numpy as np
array = np.zeros(10)
print(array)
```

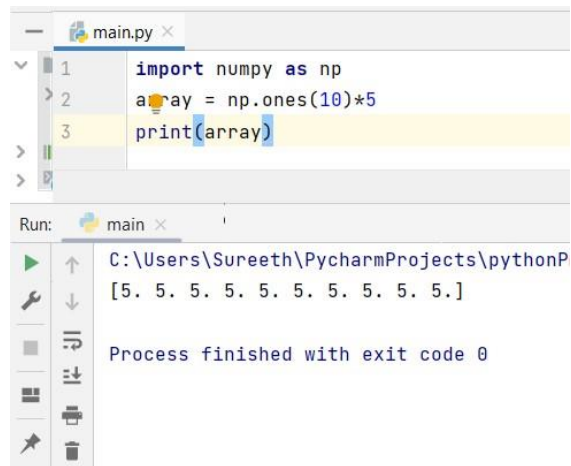


4.2 Create an array of 10 fives?

Solution:

```
import numpy as np
array = np.ones(10)*5
```

```
print(array)
```



The screenshot shows the PyCharm IDE with a file named `main.py` open. The code in the editor is:

```
1 import numpy as np
2 array = np.ones(10)*5
3 print(array)
```

Below the editor, the Run window shows the execution path and output:

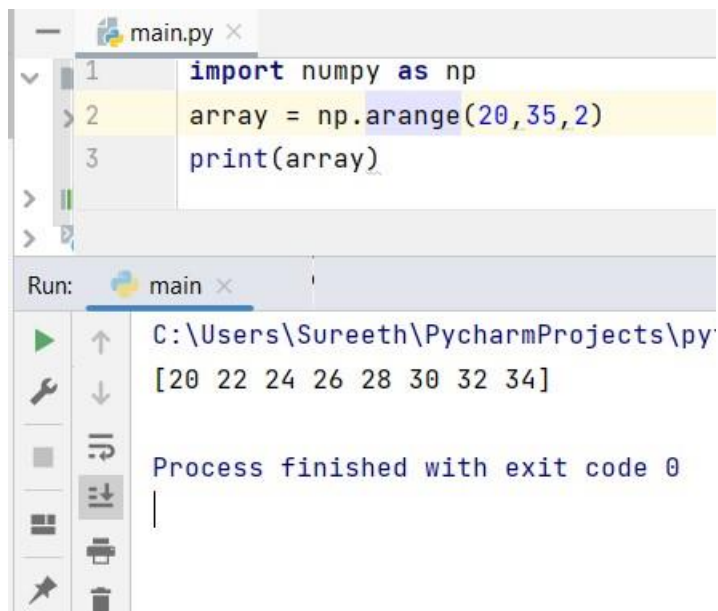
```
C:\Users\Sureeth\PycharmProjects\pythonP
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

Process finished with exit code 0
```

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

Solution:

```
Import numpy as np
array = np.arange(20,35,2)
print(array)
```



The screenshot shows the PyCharm IDE with a file named `main.py` open. The code in the editor is:

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

Below the editor, the Run window shows the execution path and output:

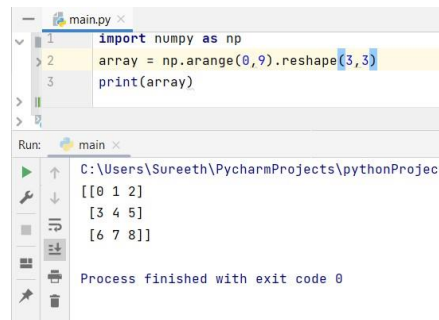
```
C:\Users\Sureeth\PycharmProjects\py
[20 22 24 26 28 30 32 34]

Process finished with exit code 0
```

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

Solution:

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

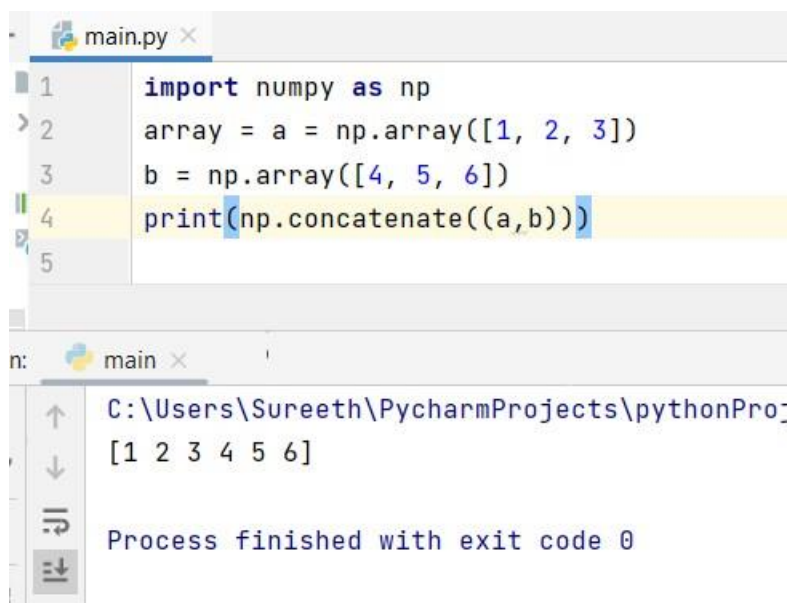
A screenshot of a code editor window titled 'main.py'. The code contains three lines: 'import numpy as np', 'array = np.arange(0,9).reshape(3,3)', and 'print(array)'. Below the code editor is a 'Run' panel showing the output of the code: a 3x3 matrix with values from 0 to 8. The output is displayed as three rows: '[0 1 2]', '[3 4 5]', and '[6 7 8]'. At the bottom of the Run panel, it says 'Process finished with exit code 0'.

7. Concatenate a and b

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

Solution:

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

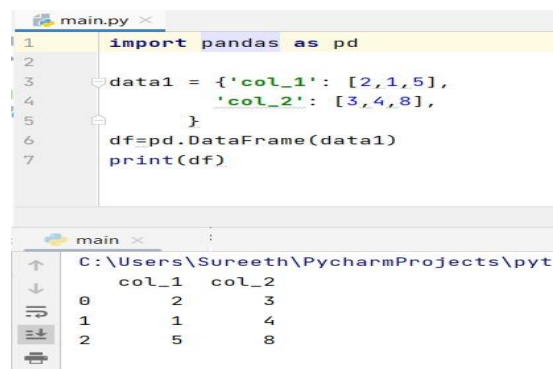
A screenshot of a code editor window titled 'main.py'. The code contains four lines: 'import numpy as np', 'array = a = np.array([1, 2, 3])', 'b = np.array([4, 5, 6])', and 'print(np.concatenate((a,b)))'. Below the code editor is a 'Run' panel showing the output of the code: a single row array with values [1, 2, 3, 4, 5, 6]. The output is displayed as '[1 2 3 4 5 6]'. At the bottom of the Run panel, it says 'Process finished with exit code 0'.

8. Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd

data = {'col_1': [2,1,5],
        'col_2': [3,4,8],
        }
df=pd.DataFrame(data)
print(df)
```



The screenshot shows a PyCharm IDE with two windows. The top window, titled 'main.py', contains the following Python code:

```
1 import pandas as pd
2
3 data1 = {'col_1': [2,1,5],
4         'col_2': [3,4,8],
5         }
6 df=pd.DataFrame(data1)
7 print(df)
```

The bottom window, titled 'main', shows the output of the script as a table with two columns, 'col_1' and 'col_2', and three rows of data:

	col_1	col_2
0	2	3
1	1	4
2	5	8

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

Solution:

```
import pandas as pd
date=pd.date_range(start='01.01.2023',end='10.02.2023')
print(date)
```

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

main x
C:\Users\Sureeth\PycharmProjects\pythonProject8\venv\py\Scripts\python.exe
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')

Process finished with exit code 0
```

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)
print(df)
```

```
main.py x
1 import pandas as pd
2 lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
3 df1=pd.DataFrame(lists)
4 print(df1)
```

```
main x
C:\Users\Sureeth\PycharmProjects\pythonProject8\venv\py\Scripts\pyth
0 1 2
0 1 aaa 22
1 2 bbb 25
2 3 ccc 24
Process finished with exit code 0
```