

Assignment -1
Python Programming

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

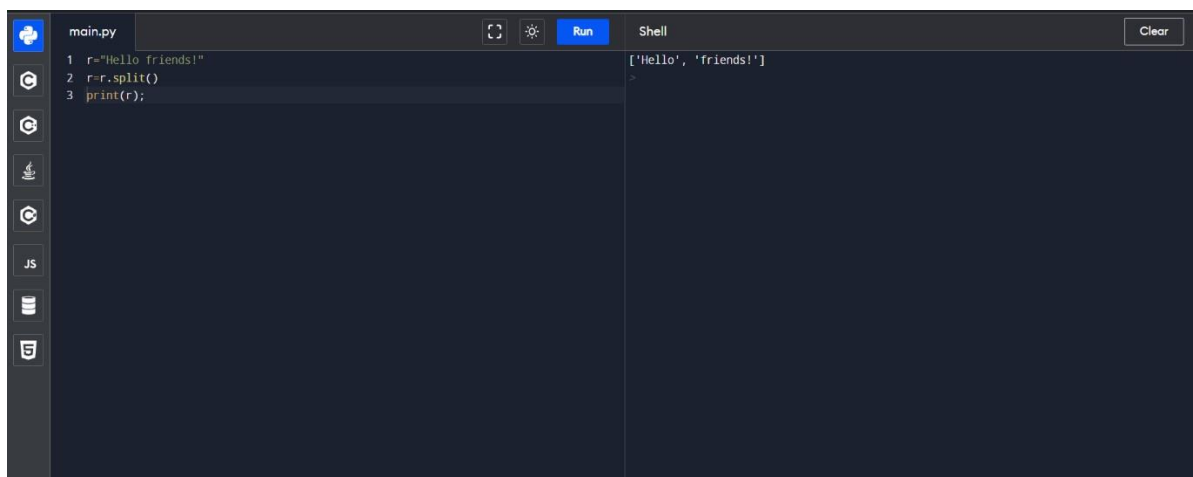
Question-1:

Split this string

Solution: `r="Hello
friends!" r=r.split()
print(r);`

`#.....#`

`#.....#`



The screenshot shows a Python IDE with a file named 'main.py' and a 'Shell' window. The code in 'main.py' is:

```
1 r="Hello friends!"
2 r=r.split()
3 print(r);
```

The 'Shell' window shows the output of the code:

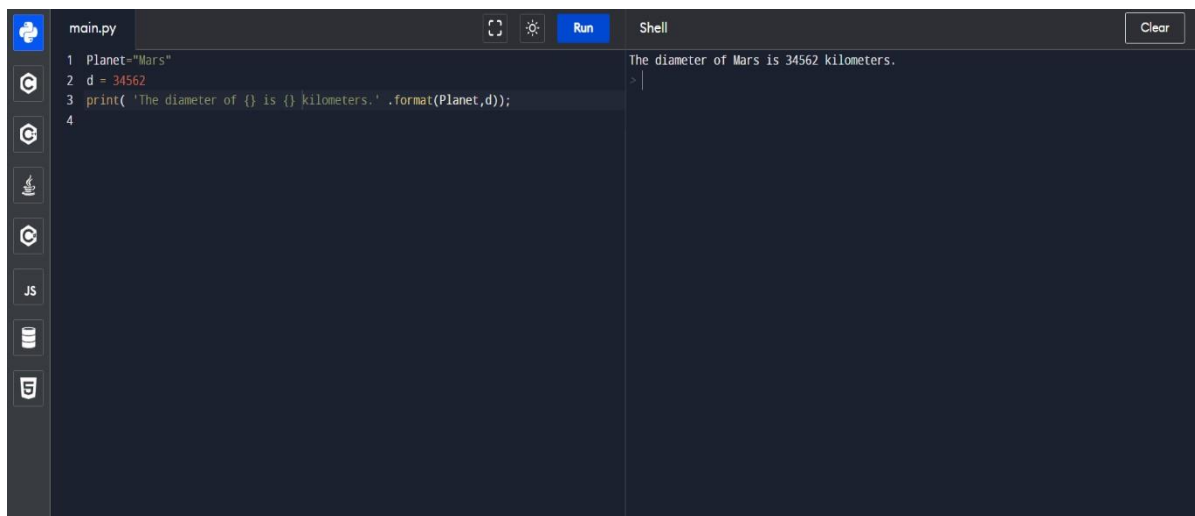
```
['Hello', 'friends!']
```

Question-2:

Use `.format()` to print the following string.
Output should be: The diameter of Earth is
12742 kilometers.

Solution:

```
Planet="Mars" d
= 34562
print( 'The diameter of {} is {}kilometers.'
.format(Planet,d));
```

A screenshot of a code editor interface. The left pane shows a file named 'main.py' with the following Python code:

```
1 Planet="Mars"
2 d = 34562
3 print( 'The diameter of {} is {} kilometers.' .format(Planet,d));
4
```

The right pane, titled 'Shell', shows the output of the script:

```
The diameter of Mars is 34562 kilometers.
```

Question-3:

In this nest dictionary grab the word "hello"
d =

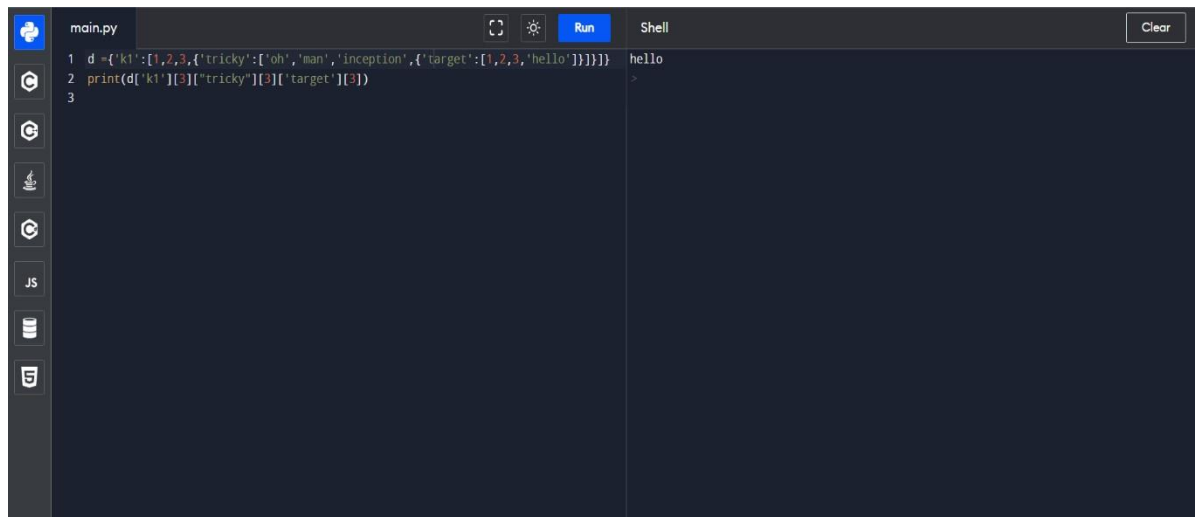
```
{'k1':[1,2,3,{'tricky':['oh','man','inception',{'t
target':[1,2,3,'hello']}]}}]}
```

Solution:

d =

```
{'k1':[1,2,3,{'tricky':['oh','man','inception',{'t
arget':[1,2,3,'hello']}]}}]}
```

```
print(d['k1'][3]["tricky"][3]['target'][3])
```



The screenshot shows a Jupyter Notebook with a file named 'main.py'. The code in the cell is:

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

The output of the cell is 'hello'.

Question-4:

Numpy import numpy as np

4.1 Create an array of 10 zeros?

Solution: `np.zeros(10)`

4.2 Create an array of 10 fives?

Solution: `np.ones(10)*5`



The screenshot shows a Jupyter Notebook with the title 'Numpy'. The code in the cell is:

```
import numpy as np

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?
```

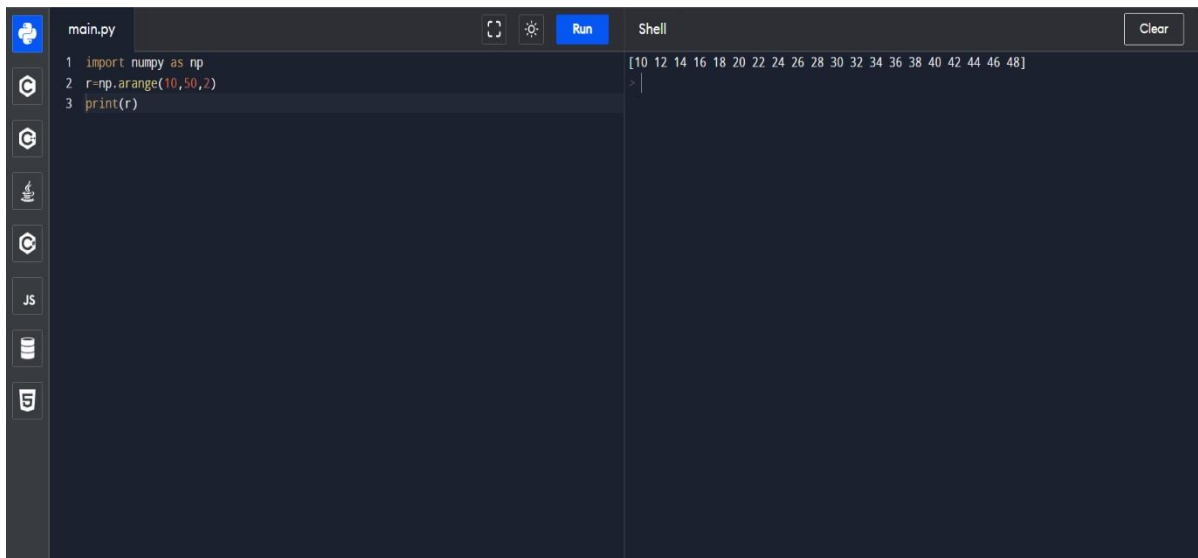
The output of the cell is:

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
array([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  
r=np.arange(10,50,2) print(r)
```



The screenshot shows a Jupyter Notebook interface with a dark theme. The left sidebar contains icons for file management, search, and other notebook functions. The main area is split into two panes. The left pane, titled 'main.py', contains the following Python code:

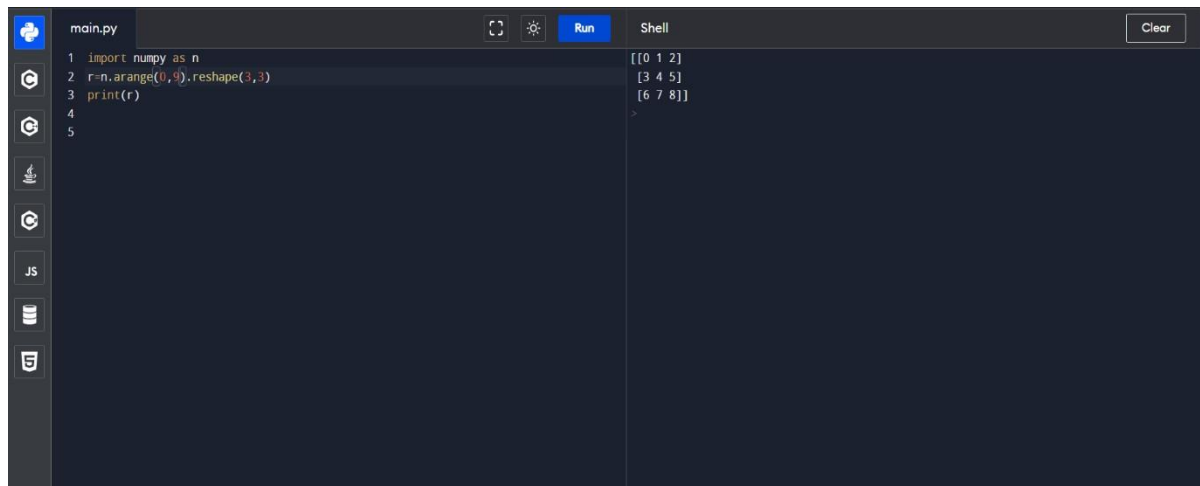
```
1 import numpy as np  
2 r=np.arange(10,50,2)  
3 print(r)
```

The right pane, titled 'Shell', shows the output of the code as a single line of text: `[10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48]`. A 'Run' button is visible at the top of the interface.

Question-6:

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

```
Solution: import numpy as n  
r=n.arange(0,9).reshape(3,3)  
print(r)
```



The screenshot shows a Jupyter Notebook with a file named 'main.py'. The code in the cell is:

```
1 import numpy as n
2 r=n.arange(0,9).reshape(3,3)
3 print(r)
4
5
```

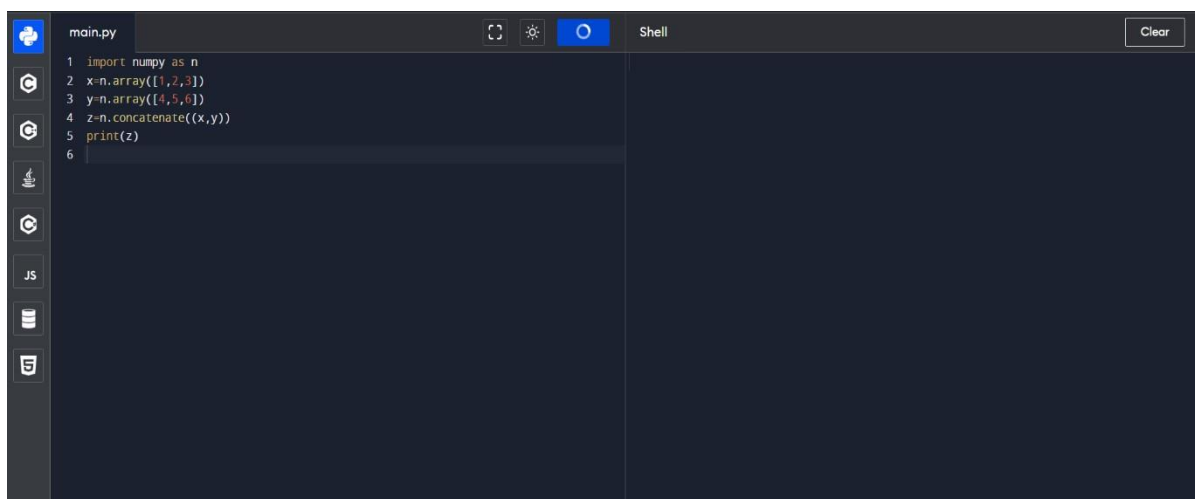
The output in the Shell is:

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

Question-7: Concatenate x and y x =
np.array([1, 2, 3]), y = np.array([4, 5, 6])

Solution:

```
import numpy as n
x=n.array([1,2,3])
y=n.array([4,5,6])
z=n.concatenate((x,y)) print(z)
```



The screenshot shows a Jupyter Notebook with a file named 'main.py'. The code in the cell is:

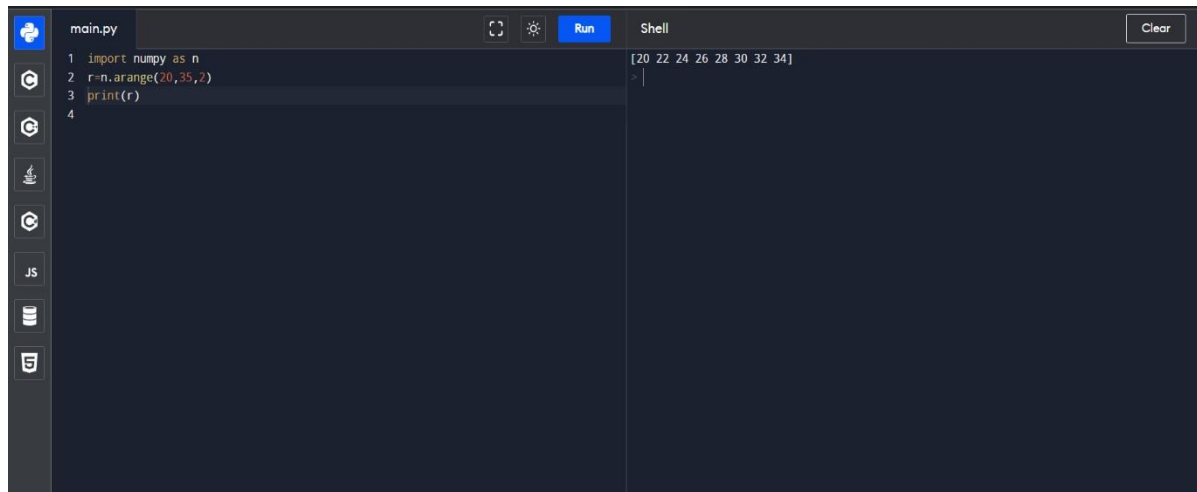
```
1 import numpy as n
2 x=n.array([1,2,3])
3 y=n.array([4,5,6])
4 z=n.concatenate((x,y))
5 print(z)
6
```

Pandas

Question-8:

Create a dataframe with 3 rows and 2 columns **Solution:**

```
import numpy as n
r=n.arange(20,35,2)
print(r)
```

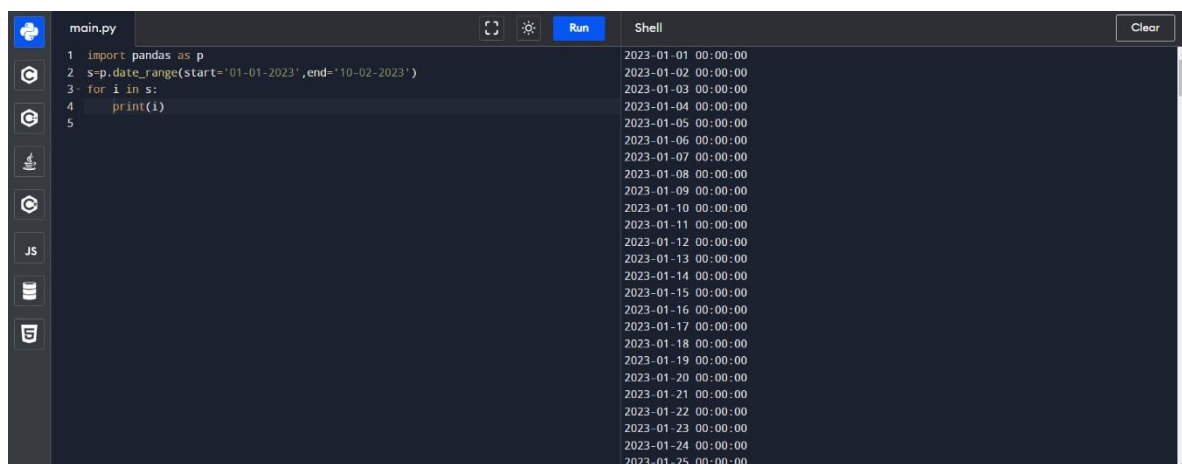


```
main.py  Run  Shell  Clear
1 import numpy as n
2 r=n.arange(20,35,2)
3 print(r)
4
[20 22 24 26 28 30 32 34]
```

Question-9:

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

```
import pandas as p
s=p.date_range(start='01-01-2023',end='10-02-2023')
for i in s: print(i)
```



```
main.py  Run  Shell  Clear
1 import pandas as p
2 s=p.date_range(start='01-01-2023',end='10-02-2023')
3 for i in s:
4     print(i)
5
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
```

```
main.py  Run Shell Clear
1 import pandas as p
2 s=p.date_range(start='01-01-2023',end='10-02-2023')
3 for i in s:
4     print(i)
5
```

```
2023-09-09 00:00:00
2023-09-10 00:00:00
2023-09-11 00:00:00
2023-09-12 00:00:00
2023-09-13 00:00:00
2023-09-14 00:00:00
2023-09-15 00:00:00
2023-09-16 00:00:00
2023-09-17 00:00:00
2023-09-18 00:00:00
2023-09-19 00:00:00
2023-09-20 00:00:00
2023-09-21 00:00:00
2023-09-22 00:00:00
2023-09-23 00:00:00
2023-09-24 00:00:00
2023-09-25 00:00:00
2023-09-26 00:00:00
2023-09-27 00:00:00
2023-09-28 00:00:00
2023-09-29 00:00:00
2023-09-30 00:00:00
2023-10-01 00:00:00
2023-10-02 00:00:00
> |
```

Question-10:

Create 2D list to DataFrame

```
l = [[1, 'ppp', 22], [2, 'qqq', 25], [3, 'rrr', 24]]
```

Solution:

```
import pandas as p
```

```
l = [[1, 'ppp', 22], [2, 'qqq', 25], [3, 'rrr', 24]]
```

```
s=p.DataFrame(l,columns=['Tag','PQR','n umber']) print(s)
```

```
main.py  Run Shell Clear
1 import pandas as p
2 l = [[1, 'ppp', 22], [2, 'qqq', 25], [3, 'rrr', 24]]
3 s=p.DataFrame(l,columns=['Tag','PQR','n umber'])
4 print(s)
5
```

```
Tag  PQR  n umber
0    1  ppp      22
1    2  qqq      25
2    3  rrr      24
> |
```