

Assignment -1

Python
Programming

Assignment Date	19 September 2022
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Student Roll Number	922519205109
Maximum Marks	2 Marks

Question-1:

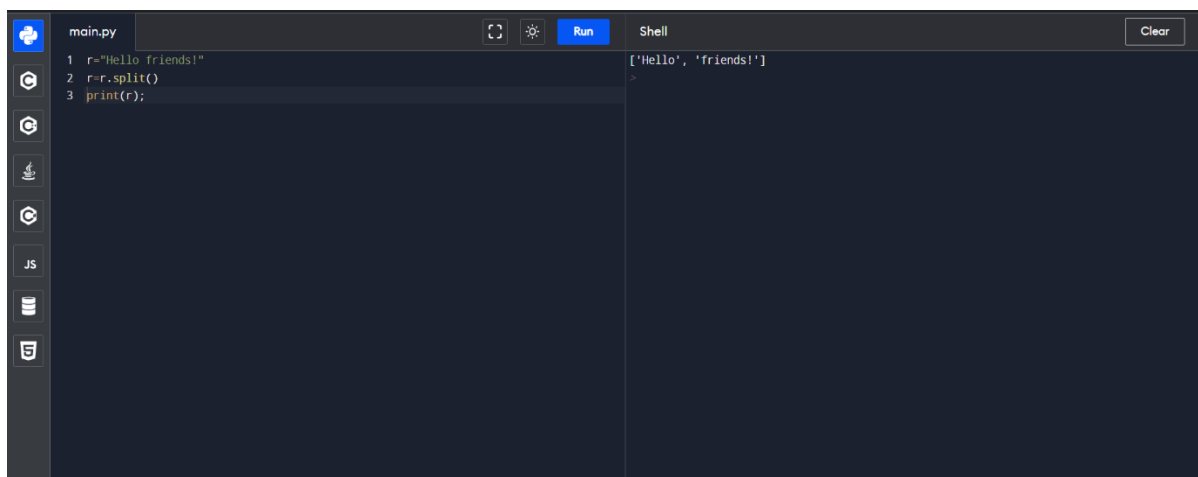
Split this string

Solution: `r="Hello
friends!"`

`r=r.split() print(r);`

`#.....#`

`#.....#`



The screenshot shows a Python IDE with a file named 'main.py'. The code in the editor is:

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

The 'Run' button is highlighted. The output in the 'Shell' window is:

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

Question-2:

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

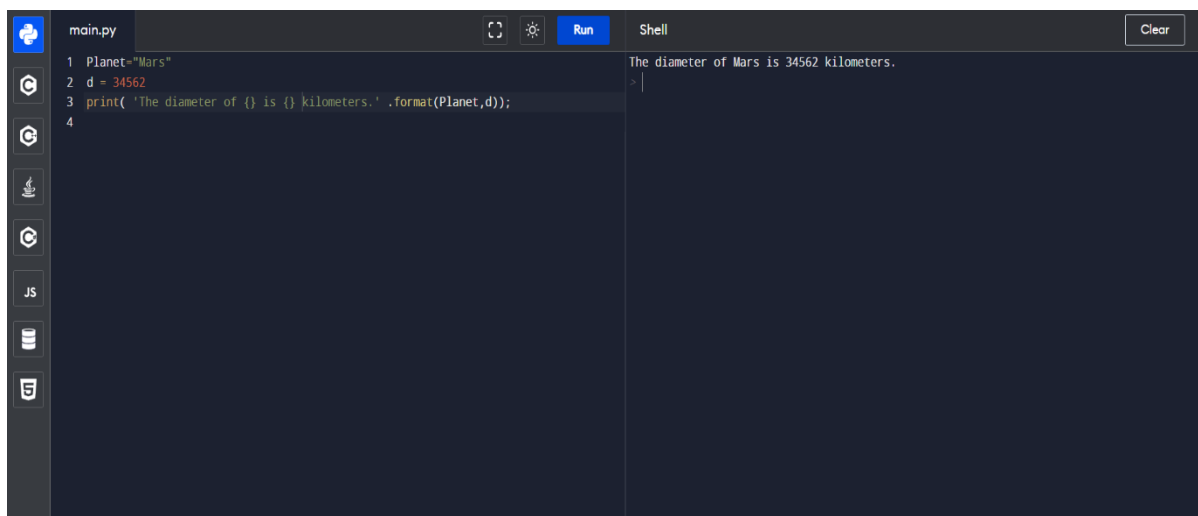
Output should be: The diameter of Earth is 12742 kilometers.

Solution:

```
Planet="Mars"
```

```
d = 34562
```

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



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

```
main.py  Run Shell Clear
1 d={'k1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
2 print(d['k1'][3]['tricky'][3]['target'][2])
3
```

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

```
Numpy
In [ ]: import numpy as np

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [ ]: np.zeros(10)
Out[ ]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

In [ ]: np.ones(10)*5
Out[ ]: array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

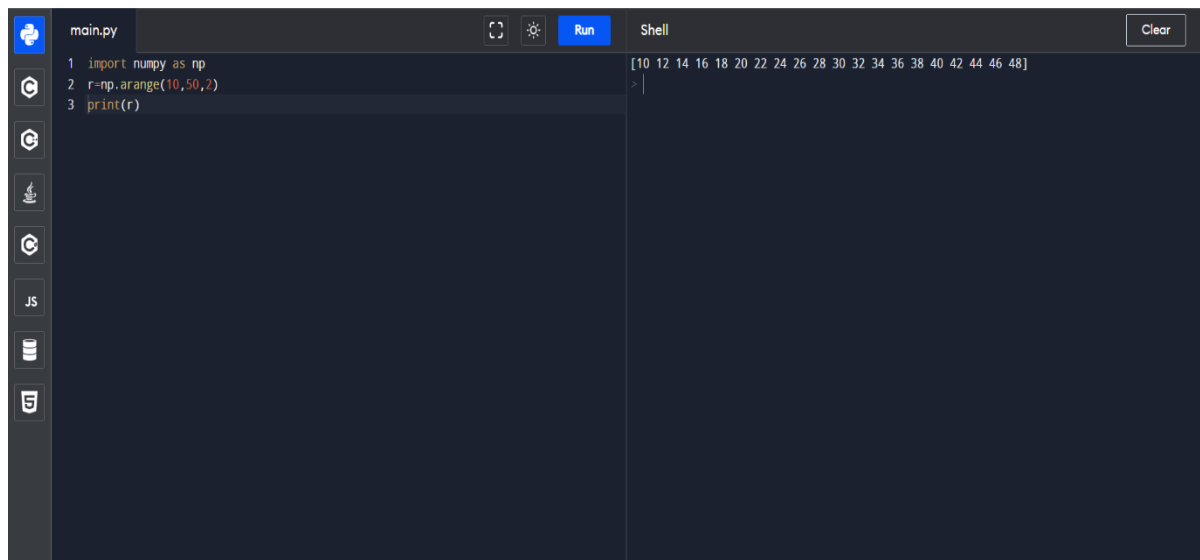
Question-5:

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. On the left, a file browser shows 'main.py'. The main area contains a code cell with the following Python code:

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

On the right, the 'Shell' output area displays the result of the code execution:

```
[10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48]
```

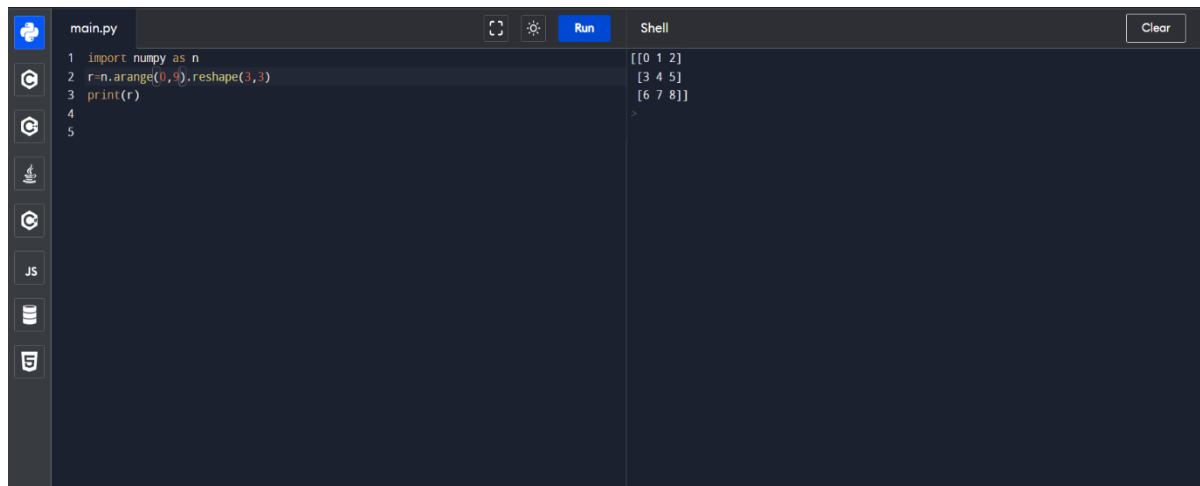
Question-6:

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)
```



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

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

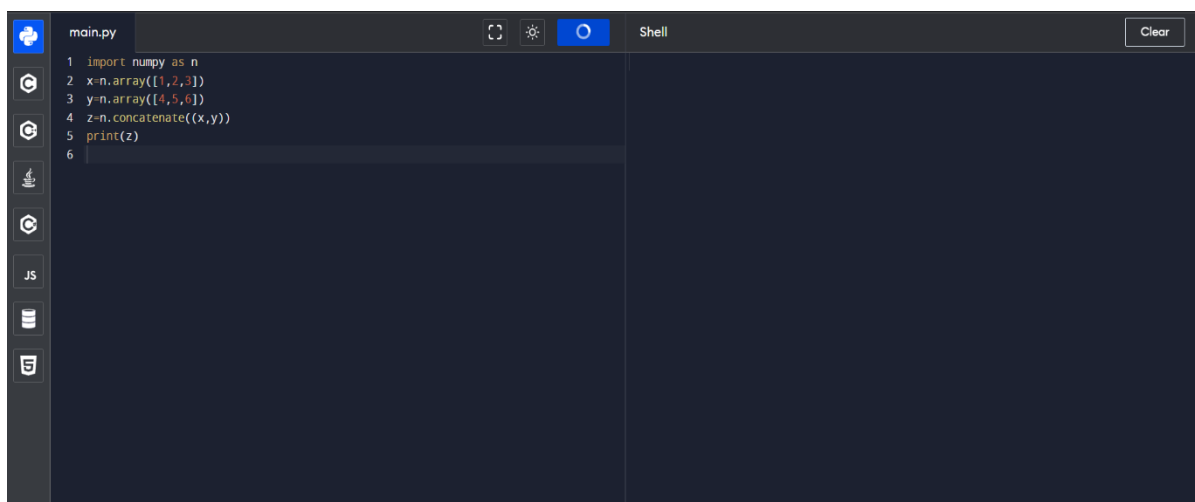
The right pane shows the output of the code, which is a 3x3 array:

```
[[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)
```



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

```
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
```

The right pane is empty, indicating that the code has not yet been executed.

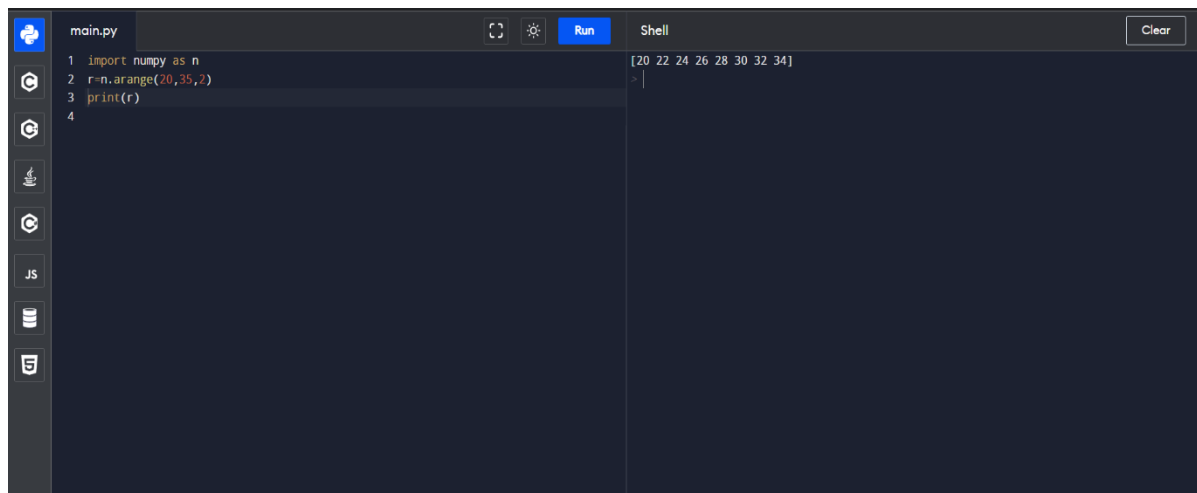
Pandas

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

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

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

```
1 import numpy as n
2 r=n.arange(20,35,2)
3 print(r)
4
```

The right pane shows the output of the code, which is a NumPy array:

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

 The interface includes a 'Run' button and a 'Clear' button in the top right corner of the right pane.

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(lists,columns=['Tag','PQR','number']) print(s)
```

main.py

Run

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
```

Shell

Tag PQR n umber

0 1 ppp 22

1 2 qqq 25

2 3 rrr 24

> |