ASSIGNMENT -1
Python Programming

Assignment Date	17 September 2022
Team ID	PNT2022TMID45340
Project Name	Real-time communication System Powered by AI for specially Abled
Student Name	R.Meena
Student Roll Number	E1195030
Maximum Marks	2 Marks

Question-1.

Split this string

s = "Hi there Sam!"

Solution:

s.split( )

```
[2]  s = "Hi there Sam!"

[3]  s.split(' ')

     ['Hi', 'there', 'Sam!']
```

Question-2.

Use .format() to print the following string.

Outputshould be: The diameter of Earth is 12742 kilometers.

Solution:

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

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

```
The diameter of Earth is 12742 kilometers.
```

Question-3.

In this nest dictionary grab theword "hello"

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

Solution:

d['k1'][3]['tricky'][3]['target'][3]

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

    d['k1'][3]['tricky'][3]['target'][3]

    'hello'
```

Question-4.

4.1 Create an array of 10 zeros?

Solution:

import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)

```
[11] import numpy as np

     array=np.zeros(10)
     print("An array of 10 zeros:")
     print(array)

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

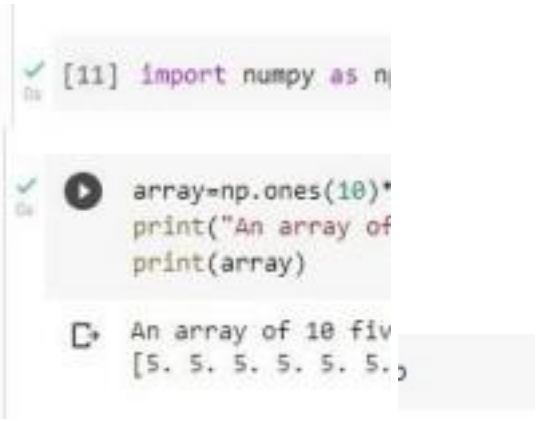
4.2 Create an array of 10 fives?

Solution:

import numpy as np
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)

```
5
 10 fives:")
```

```
es:
 5. 5. 5. 5.]
```

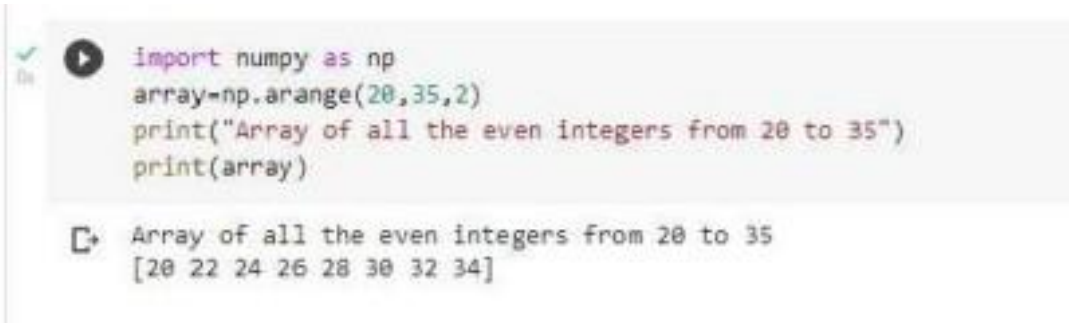


Question-5.

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 of allthe      print(array)
even intege                  sfrom 20 to 35")
r
```



Question-6.

Create a 3x3 matrix with valuesranging 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])
np.concatenate((a, b), axis=0)

```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
np.concatenate((a, b), axis=0)
```

```
array([1, 2, 3, 4, 5, 6])
```

Question-8.

Create a dataframe with 3 rows and 2 columns

Solution:

import pandas as pd
record = {"Name": ["Ram", "Jack", "Rose"], "Marks": [29, 25, 23] }
df = pd.DataFrame(record)
df1 = df.head(3)
df1

```
import pandas as pd
```

```
# dictionary
record = {"Name": ["Ram", "Jack", "Rose"],
  "Marks": [29, 25, 23] }

# converting record into
# pandas dataframe
df = pd.DataFrame(record)

# select first 3 rows
# from the dataframe
df1 = df.head(3)

# show the dataframe
df1
```

	Name	Marks
0	Ram	29
1	Jack	25
2	Rose	23

Question-9.

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

Solution:

```
from datetime import date, timedelta
start_date = date(2023, 1, 1)
end_date = date(2023, 2, 10) # perhaps date.now()
delta = end_date - start_date # returns timedelta
for i in range(delta.days + 1):
day = start_date + timedelta(days=i)
print(day)
```

```
from datetime import date, timedelta

start_date = date(2023, 1, 1)
end_date = date(2023, 2, 10)    # perhaps date.now()

delta = end_date - start_date   # returns timedelta

for i in range(delta.days + 1):
    day = start_date + timedelta(days=i)
    print(day)
```

```
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
```

Question-10.

Create 2D list to DataFrame

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

Solution:

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

```python
import pandas as pd

# List1
lst = [['aaa', 22], ['bbb', 25], ['ccc', 24]]

# creating df object with columns specified
df = pd.DataFrame(lst)
print(df)
```

```
     0   1
0  aaa  22
1  bbb  25
2  ccc  24
```