In [117…
```python
#LOOPS
```

In [110…
```python
i = 1
while i<=5:
    print('data science')
    i = i + 1
```

```
data science
data science
data science
data science
data science
```

In [111…
```python
i = 5
while i>=1:
    print('data science')
    i = i - 1
```

```
data science
data science
data science
data science
data science
```

In [115…
```python
i = 1
while i<=5:
    print('data science :', i)
    i = i + 1
```

```
data science : 1
data science : 2
data science : 3
data science : 4
data science : 5
```

In [116…
```python
i = 5
while i>=1:
    print('data science :', i)
    i = i - 1
```

```
data science : 5
data science : 4
data science : 3
data science : 2
data science : 1
```

In [118…
```python
#Nested while loops
```

In [119…
```python
i = 1
while i<=5:
    print('data science:', i)
    j=1
    while j<=4:
        print('technolgy')
        j = j + 1
    i = i + 1
    print()
```

```
data science: 1
technolgy
technolgy
technolgy
technolgy

data science: 2
technolgy
technolgy
technolgy
technolgy

data science: 3
technolgy
technolgy
technolgy
technolgy

data science: 4
technolgy
technolgy
technolgy
technolgy

data science: 5
technolgy
technolgy
technolgy
technolgy
```

In [120…
```python
i = 1
while i<=5:
    print('data science')
    j=1
    while j<=4:
        print('technolgy')
        j = j + 1
    i = i + 1
    print()
```

```
data science
technolgy
technolgy
technolgy
technolgy

data science
technolgy
technolgy
technolgy
technolgy

data science
technolgy
technolgy
technolgy
technolgy

data science
technolgy
technolgy
technolgy
technolgy

data science
technolgy
technolgy
technolgy
technolgy
```

In [121…
```python
i = 1
while i<=5:
    print('data science', end = " ")
    j=1
    while j<=4:
        print('technolgy', end = " ")
        j = j + 1
    i = i + 1
    print()
```

```
data science technolgy technolgy technolgy technolgy
data science technolgy technolgy technolgy technolgy
data science technolgy technolgy technolgy technolgy
data science technolgy technolgy technolgy technolgy
data science technolgy technolgy technolgy technolgy
```

In [123…
```python
i = 1
while i <= 5:
    print('Hey', i)
    j = 0
    while j <= 7:
        print('Hi', end="* ")
        j = j + 1
    i = i + 1
    print()
```

```
Hey 1
Hi* Hi* Hi* Hi* Hi* Hi* Hi* Hi*
Hey 2
Hi* Hi* Hi* Hi* Hi* Hi* Hi* Hi*
Hey 3
Hi* Hi* Hi* Hi* Hi* Hi* Hi* Hi*
Hey 4
Hi* Hi* Hi* Hi* Hi* Hi* Hi* Hi*
Hey 5
Hi* Hi* Hi* Hi* Hi* Hi* Hi* Hi*
```

In [124...
```python
i = 1
while i<=2:
    j = 0
    while j<=2:
        print(i*j, end=" ")
        j+= 1
        print()
        i+= 1
```

```
0
2
6
```

In [125...
```python
i = 1
while i<=4 :
    j = 0
    while j<=3 :
        print(i*j, end=" ")
        j += 1
        print()
        i += 1
```

```
0
2
6
12
```

In [126...
```python
#For loop- list, string, int
```

In [127...
```python
name = 'nit'
for i in name:
    print(i)
```

```
n
i
t
```

In [128...
```python
name1 = [1,3.5,'hello']
for i in name1:
    print(i)
```

```
1
3.5
hello
```

In [129...
```python
for i in [2,3,7.8,'hi']:
    print(i)
```

```
2
3
7.8
hi
```

In [131...
```python
name = 'Chinnu'
for i in enumerate(name):
    print(i)
```

```
(0, 'C')
(1, 'h')
(2, 'i')
(3, 'n')
(4, 'n')
(5, 'u')
```

In [132...
```python
range(5)
```

Out[132...
```
range(0, 5)
```

In [133...
```python
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [134...
```python
for i in range(2,5):
    print(i)
```

```
2
3
4
```

In [135...
```python
for i in range(1,10,3):
    print(i)
```

```
1
4
7
```

In [38]:
```python
for i in range(1,51):
    if i%5==0:
        print(i)
```

```
5
10
15
20
25
30
35
40
45
50
```

In [136...
```python
for i in range(1,21):
    if i%5!=0:
        print(i)
```

```
1
2
3
4
6
7
8
9
11
12
13
14
16
17
18
19
```

In [137… `#Keywords- Break, Continue, Pass`

In [138…
```python
for i in range(1,11):
    if i==6:
        break
    print(i)
```

```
1
2
3
4
5
```

In [139…
```python
for i in range(1,11):
    if i==5:
        continue
    print(i)
```

```
1
2
3
4
6
7
8
9
10
```

In [140…
```python
for i in range(1,11):
    if i==3:
        continue
    print(i)
```

```
1
2
4
5
6
7
8
9
10
```

```python
for i in range(1,11):
    if i==6:
        continue
    print('hello:', i)
```

```
hello: 1
hello: 2
hello: 3
hello: 4
hello: 5
hello: 7
hello: 8
hello: 9
hello: 10
```

```python
for i in range(1,11):
```

```
  Cell In[142], line 1
    for i in range(1,11):
                         ^
SyntaxError: incomplete input
```

```python
for i in range(1,11):
    pass
```

```python
for i in range(1,51):
    if i%3 == 0:
        print(i)
print('end')
```

```
3
6
9
12
15
18
21
24
27
30
33
36
39
42
45
48
end
```

```python
for i in range(1,51):

    if i%3 == 0:
        continue
    print(i)
print('end')
```

```
1
2
4
5
7
8
10
11
13
14
16
17
19
20
22
23
25
26
28
29
31
32
34
35
37
38
40
41
43
44
46
47
49
50
end
```

In [146…

```python
for i in range(1,51):

    if i%3 == 0 or i%5 == 0:
        continue
    print(i)
print('end')
```

```
1
2
4
7
8
11
13
14
16
17
19
22
23
26
28
29
31
32
34
37
38
41
43
44
46
47
49
end
```

In [67]:
```python
for i in range(1,51):

    if i%3 == 0 and i%5 == 0:
        continue
    print(i)
print('end')
```

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
16
17
18
19
20
21
22
23
24
25
26
27
28
29
31
32
33
34
35
36
37
38
39
40
41
42
43
44
46
47
48
49
50
end
```

In [147…
```python
for i in range(1,51):

    if (i%2 == 0):
        pass
    else:
        print(i)
print('bye')
```

```
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49
bye
```

In [ ]:

In [70]:
```python
print('# # # #')
print('# # # #')
print('# # # #')
print('# # # #')
```

```
# # # #
# # # #
# # # #
# # # #
```

In [72]:
```python
for i in range(4):
    print('#')
```

```
#
#
#
#
```

In [74]:
```python
for i in range(4):
    print('#', end=" ")
```

```
# # # #
```

In [75]:
```python
for i in range(4):
    print('#', end=" ")
print()
for j in range(4):
    print('#', end=" ")
```

```
# # # #
# # # #
```

In [76]:
```python
for i in range(4):
    print('#', end=" ")
print()
for j in range(4):
    print('#', end=" ")
print()
for i in range(4):
    print('#', end=" ")
print()
for j in range(4):
    print('#', end=" ")
```

```
# # # #
# # # #
# # # #
# # # #
```

In [82]:
```python
for i in range(4):
    for j in range(4):
        print('#', end=" ")
    print()
```

```
# # # #
# # # #
# # # #
# # # #
```

In [83]:
```python
for i in range(5):
    for j in range(i):
        print('#', end=" ")
    print()
```

```
#
# #
# # #
# # # #
```

In [84]:
```python
for i in range(4):
    for j in range(i+1):
        print('#', end=" ")
    print()
```

```
#
# #
# # #
# # # #
```

In [90]:
```python
for i in range(4):
    for j in range(4-i):
        print('#', end=" ")
    print()
```

```
# # # #
# # #
# #
#
```

In [91]:
```python
#for else
```

In [94]:
```python
nums = [12,15,18,21,26]
for num in nums:
```

```python
    if num%5 == 0:
        print(num)
```

```
15
```

In [95]:
```python
nums = [12,14,18,21,25,30,35]
for num in nums:
    if num%5 == 0:
        print(num)
```

```
25
30
35
```

In [97]:
```python
nums = [12,14,18,21,20,25]
for num in nums:
    if num%5 == 0:
        print(num)
        break
```

```
20
```

In [98]:
```python
nums = [7,14,18,21,23,27]
for num in nums:
    if num%5 == 0:
        print(num)
        break
```

In [99]:
```python
nums = [7,14,18,21,23,27]
for num in nums:
    if num%5 == 0:
        print(num)
        break
    else:
        print("Number not found")
```

```
Number not found
Number not found
Number not found
Number not found
Number not found
Number not found
```

In [100…
```python
nums = [7,14,18,21,23,27]
for num in nums:
    if num%5 == 0:
        print(num)
        break
else:
        print("Number not found")
```

```
Number not found
```

In [101…
```python
nums = [10,14,18,21,20,27,30]
for num in nums:
    if num%5 == 0:
        print(num)
else:
        print("Number not found")
```

```
10
20
30
Number not found
```

In [102…
```python
nums = [10,14,18,21,20,27,30]
for num in nums:
    if num%5 == 0:
        print(num)
        break
else:
        print("Number not found")
```

```
10
```

In [103…
```python
#prime number
```

In [104…
```python
num = 12
for i in range(2,num):
    if num% i == 0:
        print('Not prime number')
        break
else:
    print('Prime number')
```

```
Not prime number
```

In [105…
```python
num = 13
for i in range(2,num):
    if num% i == 0:
        print('Not prime number')
        break
else:
    print('Prime number')
```

```
Prime number
```

In [107…
```python
num = 12
for i in range(2,num):
    if num% i == 0:
        print('Not prime number')
else:
    print('Prime number')
```

```
Not prime number
Not prime number
Not prime number
Not prime number
Prime number
```

In [109…
```python
from array import*
arr= array('i', [])
n = int(input('Enter the length of the array'))
for i in range(5):
    x = int(input('Enter the next value'))
    arr.append(x)
print(arr)
```

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

In [ ]: