```
In [2]: print('data science')
        print('data science')
        print('data science')
        print('data science')
        print('data science')
```

data science
data science
data science
data science
data science

```
In [4]: i=1  #intializing variable
        while i<=5:   #conditiona #while is a conditional loop
            print('data science')
            i=i+1 #increment
```

data science
data science
data science
data science
data science

```
In [6]: i=5
        while i>=1:
            print('data science')
            i=i-1 #decrement
```

data science
data science
data science
data science
data science

```
In [10]: i=1
         while i<=5:
             print('data science',i)
             i=i+1 #decrement
```

data science 1
data science 2
data science 3
data science 4
data science 5

```
In [12]: i=5
         while i>=1:
             print('data science',i)
             i=i-1 #decrement
```

data science 5
data science 4
data science 3
data science 2
data science 1

```
In [14]: i=1
         while i<=5:
             print('data science')#when we end then new line will not create
             j=1
```

```
    while j<4:
        print('technology')
        j=j+1
    i=i+1
    print()
#the output which we get is very lengthy but how to make them int one line
```

```
data science
technology
technology
technology

data science
technology
technology
technology

data science
technology
technology
technology

data science
technology
technology
technology

data science
technology
technology
technology
```

In [20]:
```
i=1
while i<=5:
    print('data science',end="")# end use to retain creation of new line
    j=1
    while j<=4:
        print(' technology',end="")
        j=j+1
    i=i+1
    print()
```

```
data science technology technology technology technology
data science technology technology technology technology
data science technology technology technology technology
data science technology technology technology technology
data science technology technology technology technology
```

In [26]:
```
#lets use numbers in the while loop
i=1
while i<=4:
    j=0
    while j<=3:
        print(i*j,end=" ")
        j+=1
    print()
    i+=1
```

```
0 1 2 3
0 2 4 6
0 3 6 9
0 4 8 12
```

In [28]:
```python
#for loops
name='nit'
for i in name:
    print(i)
```

```
n
i
t
```

In [30]:
```python
name1=[1,3.5,'hello']
for i in name1:
    print(i)
```

```
1
3.5
hello
```

In [32]:
```python
for i in [2,3.4,4,'hel']:
    print(i)
```

```
2
3.4
4
hel
```

In [34]:
```python
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [38]:
```python
for i in range(1,12,3):
    print(i)
```

```
1
4
7
10
```

In [40]:
```python
for i in range(1,51):
    if i%5==0:
        print(i)
```

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

```python
In [42]: for i in range(0,51):
             if i%5!=0:
                 print(i)
```

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

```python
In [44]: for i in range(1,11):
             print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

```
In [48]:  for i in range(1,11):
              if i==5:
                  break
              print(i)
```

```
1
2
3
4
```

```
In [50]:  for i in range(1,11):
              if i==7:
                  break
              print(i)
```

```
1
2
3
4
5
6
```

```
In [52]:  for i in range(1,11):
              if i ==6:
                  continue
              print(i)
```

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

```
In [54]:  for i in range(1,11):
              if i==5:
                  continue
              print('hello', i)
```

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

```
In [56]:  for i in range(1,11):
```

```
  Cell In[56], line 1
    for i in range(1,11):
                         ^
SyntaxError: incomplete input
```

```python
In [58]: for i in range(1,11):
             pass
```

```python
In [60]: 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
In [62]: for i in range(1,50):
             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
end
```

In [64]:
```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 [66]:
```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
```

```python
# to print only odd values
for i in range(1,50):
    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 [70]:
```python
# to print only even values
# to print only even values
for i in range(1,50):
    if(i%2!=0):
        pass
    else:
        print(i)
print('bye')
```

```
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
bye
```

In [72]:
```python
#patterns in for loop
print('# # # #')
print('# # # #')
print('# # # #')
print('# # # #')
```

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

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

```
# # # #
```

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

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

In [78]:
```python
for j in range(4):
    print('#', end=" ")
print()
for j in range(4):
    print('#', end=" ")
print()
for j in range(4):
    print('#', end=" ")
print()
for j in range(4):
```

```
    print('#', end=" ")
print()
```

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

In [80]:
```
for i in range(4):
    for j in range(4):
        print('#', end=" ")
    print()
```

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

In [ ]: