In [1]:
```
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 [2]:
```
i=1

while i<=5:
    print('data science')
    i=i+1
```

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

In [3]:
```
i=5

while i>=1:
    print('data science')
    i=i-1
```

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

In [4]:
```
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 [5]:
```
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 [6]:
```
i = 1

while i<=5:
    print('data science')
    j = 1
    while j<=4:
        print('technology')
        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 [7]:
```
i = 1
while i<=5:
    print(' datascience', end = "")
    j = 1
    while j<=4:
        print(' technology', end="")
        j = j + 1

    i = i + 1
    print()
```

```
datascience technology technology technology technology
datascience technology technology technology technology
datascience technology technology technology technology
datascience technology technology technology technology
datascience technology technology technology technology
```

In [8]:
```
i = 1

while i <= 2 :
    j = 0
    while  j <= 2 :
        print(i*j, end=" ")
        j += 1
    print()
    i += 1
```

```
0 1 2
0 2 4
```

In [9]:
```
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 [10]:
```
name = 'nit'

for i in name:
    print(i)
```

```
n
i
t
```

In [11]:
```
name1 = [1,3.5,'hallo'] #i want print the value individualy

for i in name1:
    print(i)
```

```
1
3.5
hallo
```

In [12]:
```
for i in [2, 3, 7.8, 'hi']:
    print(i)
```

```
2
3
7.8
hi
```

In [13]:
```
range(5)
```

Out[13]:
```
range(0, 5)
```

In [14]:
```
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [15]:
```
for i in range(2,5):
    print(i)
```

```
2
3
4
```

In [16]:
```
for i in range(1,10,3):
    print(i)
```

```
1
4
7
```

In [17]:
```
for i in range(1,21):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

In [18]:
```
for i in range(1,51):

    if i%5==0 :
        print(i)
```

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

In [19]:
```
for i in range(1,51):
```

```
    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
```

In [20]:
```
x = int(input('How many chocolates you want:?'))

i = 1
while i<=x:
    print('chocolates')
    i += 1
```

```
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
```

In [21]:
```
ava = 5

x = int(input('How many chocolates you want:?'))

i = 1
while i<=x:
    print('chocolates')
    i += 1
```

```
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
chocolates
```

In [22]:
```
available_chocolates = 5

x = int(input('How many chocolates user want:?'))

i = 1
while i<=x:

    if i>available_chocolates:
        break
    print('chocolates')
    i += 1

print('bye for now')
```

```
chocolates
chocolates
chocolates
chocolates
chocolates
bye for now
```

In [23]:
```
available_chocolates = 5

x = int(input('How many chocolates user want:?'))

i = 1
while i<=x:

    if i>available_chocolates:
        print('out of stock')
        break
    print('chocolates')
    i += 1

print('bye for now')
```

```
chocolates
chocolates
chocolates
chocolates
chocolates
bye for now
```

In [24]:
```
for i in range(1,11):
    print(i)
```

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

In [25]:
```
for i in range(1,11):
    if i == 6:
       break
    print(i)
```

```
1
2
3
4
5
```

In [26]:
```
for i in range(1,11):
    if i == 3:
        continue
    print(i)
```

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

In [27]:
```
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
```

In [28]:
```
for i in range(1,11):
```

```
  Cell In[28], line 1
    for i in range(1,11):
                         ^
SyntaxError: incomplete input
```

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

In [48]:
```
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
```

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

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

In [50]:
```
for i in range(1,51):

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

```
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
```

In [52]:
```
for i in range(1,50):
    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 [54]:
```python
for i in range(1,51):

    if (i%2 == 0):
        #print('even')
        continue
    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 [56]:
```
print('# # # #')
print('# # # #')
print('# # # #')
print('# # # #')
```

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

In [58]:
```
for i in range(1,5):
    i=i+1
    print('# # # # ')
```

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

In [60]:
```
for i in range(1,5):
    if i<=5:
        print('# # # #')
```

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

In [62]:
```
for j in range(4):
    print('#')
```

```
#
#
#
#
```

In [64]:
```
for j in range(4):
    print('####')
```

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

In [66]:
```
for j in range(4):
    print('#', end= "")
```

```
####
```

In [68]:
```
for j in range(4):
    print('#', end="")

for j in range(4):
    print('#', end= "")
```

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

In [70]:
```
for j in range(4):
    print('#', end=" ")

print()

for j in range(4):
    print('#', end=" ")
```

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

In [72]:
```
for j in range(4):
    print('#', end="  ")

print()

for j in range(4):
    print('#', end="  ")
```

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

In [74]:
```
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="  ")
```

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

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

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

In [78]:
```
for i in range(4):
    for j in range(i+1):
        print('#', end = " ")
    print()
```

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

In [80]:
```
for i in range(1,5):
    print("# "*i)
```

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

In [82]:
```
for i in range(1,5):
    for j in range(4):
        if i>j:
            print("#",end=" ")
    print()
```

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

In [84]:
```
list(range(5))
```

Out[84]:
```
[0, 1, 2, 3, 4]
```

In [86]:
```
for i in range(4):
    for j in range(i):
        print('#', end="  ")
    print()
```

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

In [88]:
```
for i in range(4):
    for j in range(i+1):
        print('#', end="  ")
    print()
```

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

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

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

In [92]:
```
for i in range(1,5):
    print("# "*(5-i))
```

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

In [94]:
```
nums = [12,15,18,21,26, 30, 40]

for num in nums:
    if num % 5 == 0:
        print(num)
```

```
15
30
40
```

In [96]:
```
nums = [12,14,18,21,25,30,35]

for num in nums:
    if num % 5 == 0:
        print(num)
```

```
25
30
35
```

In [98]:
```
nums = [12,14,18,21,25,20]

for num in nums:
    if num % 5 == 0:
        print(num)
```

```
25
20
```

In [100…
```
nums = [12,14,18,21,20,25]

for num in nums:
    if num % 5 == 0:
```

```
        print(num)
        break
```

```
20
```

In [102…
```
nums = [12,14,18,21,20,25]

for num in nums:
    if num % 5 == 0:
        print(num)
        break
```

```
20
```

In [104…
```
nums = [10,14,18,21,5,10]

for num in nums:
    if num % 5 == 0:
        print(num)
        break
```

```
10
```

In [108…
```
nums = [7,14,18,21,23,27]

for num in nums:
    if num % 5 == 0:
        print(num)
        break
```

In [110…
```
nums = [7,14,18,21,23,27,29]

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
Number Not Found
```

In [112…
```
nums = [7,14]
for num in nums:
    if num % 5 == 0:
        print(num)
        break
    else:
        print('Number Not Found')
```

```
Number Not Found
Number Not Found
```

In [114…
```
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 [116…

```
nums = [10,14,18,21,20,27] #hear there is no number which is divisible by 5 we g

for num in nums:
    if num % 5 == 0:
        print(num)
        break
else:
        print('Not Found')
```

```
10
```

In [118…

```
nums = [10,14,18,21,20,27,30]

for num in nums:
    if num % 5 == 0:
        print(num)
        #break
else:
        print('Not Found')
```

```
10
20
30
Not Found
```

In [120…

```
nums = [10,14,18,21,20,27]
for num in nums:
    if num % 5 == 0:
        print(num)
        break
else:
        print('Not Found')
```

```
10
```

In [122…

```
num = 14

for i in range(2,num):
    if num % i == 0:
        print('Not prime Number')
        break
else:
    print('Prime Number')
```

```
Not prime Number
```

In [124…

```
num = 13

for i in range(2,num):
    if num % i == 0:
        print('Not prime Number')
        break
else:
    print('Prime Number')
```

Prime Number

In [126…
```
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', [20, 30, 40, 50, 60])
```

In [128…
```
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', [20, 30, 50, 30, 10])
```

In [130…
```
### from array import *
arr = array('i',[])

n = input('Enter the length of the array')

for i in range(5):
    x = input('Enter the next value')
    arr.append(x)
print(arr)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[130], line 8
      6 for i in range(5):
      7     x = input('Enter the next value')
----> 8     arr.append(x)
      9 print(arr)

TypeError: 'str' object cannot be interpreted as an integer
```

In [132…
```
from numpy import *
arr = array([1,2,3,4,5])
print(arr)
type(arr)
```

```
[1 2 3 4 5]
```

Out[132… numpy.ndarray

In [134…
```
print(arr.dtype)
```

```
int32
```

In [136…
```
arr = array([1,2,3,4,5.9])
print(arr)
```

```
[1.  2.  3.  4.  5.9]
```

In [138…
```
print(arr.dtype)
```

```
float64
```

In [140…
```
arr2 = array([1,2,3,4,5.9],float)
arr2
```

Out[140…
```
array([1. , 2. , 3. , 4. , 5.9])
```

In [142…
```
arr3 = array([1,2,3,4,5.6],int)
arr3
```

Out[142…
```
array([1, 2, 3, 4, 5])
```

In [144…
```
import numpy as np
```

In [146…
```
arr4 = np.linspace(0, 16, 10)
arr4
```

Out[146…
```
array([ 0.        ,  1.77777778,  3.55555556,  5.33333333,  7.11111111,
        8.88888889, 10.66666667, 12.44444444, 14.22222222, 16.        ])
```

In [148…
```
arr5 = np.arange(0,10,2)
arr5
```

Out[148…
```
array([0, 2, 4, 6, 8])
```

In [150…
```
arr6 = np.zeros(5)
arr6
```

Out[150…
```
array([0., 0., 0., 0., 0.])
```

In [152…
```
arr7 = np.ones(5)
arr7
```

Out[152…
```
array([1., 1., 1., 1., 1.])
```

In [ ]:
```
import tkinter as tk

def on_button_click():
    label.config(text="Button clicked!")

root = tk.Tk()
root.title("Simple Tkinter App")

label = tk.Label(root, text="Hello, Tkinter!")
label.pack(pady=20)

button = tk.Button(root, text="Click Me", command=on_button_click)
button.pack(pady=20)

root.mainloop()
```

In [ ]:
```
import tkinter as tk
from tkinter import messagebox
```

```
def on_button_click():
    user_input = entry.get()
    messagebox.showinfo("Information", f"You entered: {user_input}")

root = tk.Tk()
root.title("Simple Tkinter App")

label = tk.Label(root, text="Enter something:")
label.pack(pady=10)

entry = tk.Entry(root, width=30)
entry.pack(pady=10)

button = tk.Button(root, text="Submit", command=on_button_click)
button.pack(pady=10)

root.mainloop()
```

In [ ]: