Conditional statement

.if

.else

.nested if

.if elif else

In [4]:
```
if True:
    print('Data science')
```

```
Data science
```

In [14]:
```
if False:
    print('Data science')
    print('bye for now')
```

In [16]:
```
if True:
    print('Data Science')
print('bye for now')
```

```
Data Science
bye for now
```

In [18]:
```
if True:
    print('Data Science')
else:
    print('bye for now')
```

```
Data Science
```

In [20]:
```
if False:
    print('Data Science job')
else:
    print('no job')
```

```
no job
```

In [24]:
```
x = 5
r =x % 2
if r ==0:
    print('Even number')
else:
    print('Not Even number')
```

```
Even number
```

In [26]:
```
x = 7
r= x % 2
if r==0:
    print('odd number')
else:
    print('Even number')
```

```
Even number
```

In [28]:
```
x = 5
r = x % 2
if r !=0:
    print('odd number')
```

```
odd number
```

In [34]:
```
x = 3
r = x % 2

if r == 0:
    print('Even number')
    if x>5:
        print('greater number')

else:
    print('Odd Number')
```

```
Odd Number
```

In [46]:
```
x = 4
r = x % 2

if r == 0:
    print('Even number')

    if x>5:
        print('greater number')
    else:
        print('lesser number')

else:
    print('Odd Number')
```

```
Even number
lesser number
```

In [48]:
```
x = 3

if x == 1:
    print('one')
if x == 2:
    print('Two')
if x == 3:
    print('Three')
```

```
if x == 4:
    print('four')
```

```
Three
```

In [52]:
```
x = 1

if x == 1:
    print('one')
elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')
```

```
one
```

In [56]:
```
x = 5

if x == 1:
    print('one')

elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')

else:
    print('number not found')
```

```
number not found
```

Short Hand if

In [5]:
```
age = 19
if age >18: print("Eligible to vote")
else: print("not eligible to vote")
```

```
Eligible to vote
```

In [5]:
```
age=int(input("enter your age to see wether you can vote or not"))
if age>=18:
    print("you are Ready to vote",age)
else:
    print("you are not Ready to vote",age)
```

```
you are not Ready to vote 16
```

In [13]:
```
age=int(input("enter your age for checking wether you are eligible to vote or not")
if age>=18:
    print("congratulation you are aligible to vote from this year")
elif age>60:
```

```
    print("i am soryy but you have votre enough now you are not aligibel")
elif age<=0:
    print("enter valid age ")
elif age<=18:
    print("i am sorry but you are too young to vote wait for few years to vote", ag
```

```
congratulation you are aligible to vote from this year
```

Positive,Negative or Zero

In [22]:
```
user=int(input("choose a number between 0 1 -1"))
if user==0:
    print("enterend number is zero",user)
elif user>0:
    print("enterend number is positive",user)
elif user<0:
    print("enterend number is negative",user)
```

```
enterend number is negative -8
```

Leap Year Checker

In [31]:
```
year=int(input("enter year to see wheather its a leap year or not"))
if (year % 400 ==0) or (year % 4==0 and year % 100!=0):
    print("its a leap year",year)
else:
    print("its not a leap year",year)
```

```
its not a leap year 300
```

Discount Calculater

In [39]:
```
bill=float(input("enter your total bill"))
if bill>=5000:
    discount=0.20*bill
elif bill>2000:
    discount=0.10*bill
else:
    discount=0
final_bill=bill-discount
print("discount applied:",discount)
print("final amount to pay",final_bill)
```

```
discount applied: 1200.0
final amount to pay 4800.0
```

LOOPS IN PYTHON

In [43]:
```
print('ds')
print('ds')
print('ds')
print('ds')
print('ds')
```

```
ds
ds
ds
ds
ds
```

In [45]:
```
i = 1          # initializing

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

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

In [47]:
```
i = 5          # initializing

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

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

In [49]:
```
i = 1         # initializing
while i<=5:    # condition
    print('data science : ', i)
    i = i + 1  # increment
```

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

In [59]:
```
i = 5        # initializing
while i>=1:    # condition
    print('data science : ', i)
    i = i - 1  # increment
```

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

In [63]:
```python
i = 1

while i<=10:
    print('data science') # when we mention end then new line will not create
    j = 1
    while j<=5:
        print('technology')
        j = j + 1

    i = i + 1
    print()

    # the output which we got is very lengty but how to make them one line lets ref
```

```
data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology
```

```
data science
technology
technology
technology
technology
technology

data science
technology
technology
technology
technology
technology
```

In [65]:
```
i = 1
while i<=5:
    print(' datascience', end = "") # when we mention end then new line will not cr
    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 [67]:
```
# lets use while loop usig some numbers
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 [69]:
```
# lets use while loop usig some numbers
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 [71]:
```
# lets use while loop usig some numbers
i = 10

while i <= 4 :
    j = 1
    while  j <= 3 :
        print(i*j, end=" ")
        j += 1

    print()
    i += 1

else:
    print('condition is not match')
```

```
condition is not match
```

for loop

In [74]:
```
name1 = [1, 3.5,'hallo']

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

```
1
3.5
hallo
```

In [76]:
```
range(5)
```

Out[76]:
```
range(0, 5)
```

In [78]:
```
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [80]:
```
for i in range(10,50,5):
    print(i)
```

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

In [82]:
```
# print the value which is divisible by 5
for i in range(1,31):

    if i%3 == 0 :
        print(i)
```

```
3
6
9
12
15
18
21
24
27
30
```

BREAK, CONTINUE, PASS

In [85]:
```
for i in range(1,11):
    print(i)
```

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

In [87]:
```
for i in range(1,11):
    if i == 4:
       break
    print(i)
```

```
1
2
3
```

In [89]:
```
for i in range(1,11):
    if i == 4:
       continue
    print(i)
```

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

In [91]:
```
for i in range(1,11):
    pass
```

In [93]:
```
ava = 5 # the machine has only 5 choclet

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

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

```
choclet: 1
choclet: 2
choclet: 3
choclet: 4
choclet: 5
choclet: 6
choclet: 7
choclet: 8
choclet: 9
```

In [95]:
```
available_choclet = 5 # the machine has only 10 candis

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

i = 1
while i<=x:

    if i>available_choclet: # we stop the execution but which code execution not en
        break # break is statement | means jump out of the loop
    print('choclet')
    i += 1

print('bye for now ')
```

```
choclet
choclet
choclet
choclet
choclet
bye for now
```

In [97]:
```
available_choclet = 5 # the machine has only 10 candis

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

```
i = 1
while i<=x:

    if i>available_choclet: # we stop the execution but which code execution not en
        print('out of stock')
        break # break is statement | means jump out of the loop
    print('choclet:', i)
    i += 1

print('bye for now')
```

```
choclet: 1
choclet: 2
choclet: 3
choclet: 4
choclet: 5
out of stock
bye for now
```

In [99]:
```
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 [101…
```
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 [ ]:

In [108…

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

    if i%3 == 0 or i%5 == 0:

        continue
    print(i)
#print('end')
# it will skip all the value which is divisible by 3 or 5
```

```
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 [106…
```python
nums = [12,15,18,21,26, 30,40]

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

```
15
30
40
```

In [110…
```python
nums = [12,5,15,18,21,26, 30,40]

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

```
5
15
30
40
```

In [112…
```python
nums = [12,18,21,26]

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

In [115…
```
nums = [12,18,21,26]

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

else:
    print('number not found')
```

```
number not found
```

In [117…
```
nums = [12,18,21,26,15]

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

else:
    print('number not found')
```

```
15
```

In [ ]: