conditional statement

- if
- else
- nested if
- if elif else

In [1]:
```
if True:
    print('data science')
```

```
data science
```

In [2]:
```
if False:
    print('data science')
print('bye for now')
```

```
bye for now
```

In [3]:
```
if True:
    print('data science')
print('bye for now')
```

```
data science
bye for now
```

if else

In [4]:
```
if True:
    print('data science')
else:
    print('bye for now')
```

```
data science
```

In [5]:
```
if False:
    print('data science job')
```

```
else:
    print('no job')
```

```
no job
```

In [6]:
```
x = 5
r = x%2

if r==0:
    print('even number')
```

In [7]:
```
x = 4
r = x%2

if r==0:
    print('even number')
```

```
even number
```

In [8]:
```
x = 5
r = x%2

if r!=0:
    print('odd number')
```

```
odd number
```

In [9]:
```
x = 7
r = x%2

if r!=0:
    print('odd number')
```

```
odd number
```

In [10]:
```
x = 5
r = x%2

if r==0:
    print('even number')
print('odd number')
```

```
odd number
```

In [11]:
```
x = 4
r = x%2

if r==0:
    print('even number')
print('odd number')
```

```
even number
odd number
```

In [12]:
```
x = 9
r = x%2

if r==0:
    print('even number')
if r==1:
    print('odd number')
```

```
odd number
```

In [13]:
```
x = 8
r = x%2

if r==0:
    print('even number')
if r==1:
    print('odd number')
```

```
even number
```

In [14]:
```
x = 9
r = x%2

if r!=0:
    print('odd number')
else:
    print('even number')
```

```
odd number
```

In [15]:
```
x = 3
r = x% 2
```

```
if r==0:
    print('even number')
    if x>5:
        print('number is greater')
else:
    print('odd number')
```

```
odd number
```

In [16]:
```
x = 4
r = x% 2

if r==0:
    print('even number')
    if x>5:
        print('number is greater')
else:
    print('odd number')
```

```
even number
```

nested if

In [17]:
```
x = 3
r = x% 2

if r==0:
    print('even number')
    if x>5:
        print('number is greater')
    else:
        print('lesser number')
else:
    print('odd number')
```

```
odd number
```

In [18]:
```
x = 4
r = x% 2

if r==0:
    print('even number')
```

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

```
even number
lesser number
```

In [19]:
```
x = 3

if x==1:
    print('one')
if x==2:
    print('two')
if x==3:
    print('three')
if x==4:
    print('four')
```

```
three
```

if elif else

In [20]:
```
x = 3

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

```
three
```

In [21]:
```
x = 6

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
```

find a person eligible to vote or not

In [22]:
```
age = 19
if age>18:
    print('Eligible to vote')
```

```
Eligible to vote
```

loops in python

while loop

In [23]:
```
i = 1  # initializing

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

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

In [24]:
```
i = 5
```

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

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

nested while loop

In [25]:
```
i = 1
while i<=5:
    print('data science')
    j = 1
    while j<=4:
        print('technology')
        j +=1
    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]:

```python
i = 1

while i<=5:
    print('data science',end=' ')
    j = 1
    while j<=3:
        print('technology',end =' ')
        j +=1
    i +=1
    print()
```

```
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 [27]:
```
i = 1

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

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

In [28]:
```
i = 1

while i<=4:
    j=0
    while j<=3:
        print(i*j,end =' ')
        j +=1
    i +=1
    print()
```

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

for loop

In [29]:
```
name = 'nit'

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

```
n
i
t
```

In [30]:
```
name1 = [1,3.5,'hello']

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

```
1
3.5
hello
```

In [31]:
```
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [32]:
```
for i in range(10,51,5):
    print(i)
```

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

print the value which is divisible by 5

In [33]:
```
for i in range(1,31):
    if i % 3 ==0:
        print(i)
```

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

print a multiple table of 3

In [34]:
```
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 [35]:
```
for i in range(1,11):
    print(i)
```

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

In [36]:
```python
for i in range(1,11):
    if i == 4:
        break    # break the loop
    print(i)
```

```
1
2
3
```

In [37]:
```python
for i in range(1,11):
    if i == 5:
        continue    # skips the given position
    print(i)
```

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

In [38]:
```python
for i in range(1,11): pass

# it pass the bugs or errors
```

chocolate machine problem

In [39]:
```
x = int(input('How many chocolates you want :?'))
i = 1
while i<=x:
    print('choclet',i)
    i +=1
```

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

In [40]:
```
ava = 5  # machine have only 5 chocolets

x =int(input('How many chocolets you want :?'))
i = 1
while i<=x:
    if i>ava:
        break
    print('chocolet')
    i +=1
print('Buy for now out of stock')
```

```
chocolet
chocolet
chocolet
chocolet
chocolet
Buy for now out of stock
```

In [41]:
```
ava = 5  # machine have only 5 chocolets

x =int(input('How many chocolets you want :?'))
i = 1
while i<=x:
    if i>ava:
        print('out of stock')
        break
    print('chocolet')
```

```
    i +=1
print('Buy for now')
```

```
chocolet
chocolet
chocolet
chocolet
chocolet
out of stock
Buy for now
```

In [42]:

```
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 [43]:
```python
nums = [10,21,33,54,45,30,60]

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

```
10
45
30
60
```

In [44]:
```python
nums = [10,21,33,54,45,30,60]

for num in nums:
```

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

```
10
```