

Nested if

If inside if is called nested if (OR) if within if (OR) if followed by if is called nested if

Syntax:

```
If <condition1>:
    If <condition2>:
        Statement-1
    else:
        Statement-2
else:
    Statement-3
```

Example:

```
# Login Application
user=input("Enter user name")
if user=="nit": #outer if
    pwd=input("Enter password")
    if pwd=="nit123": # inner if
        print("welcome")
    else:
        print("invalid password")
else:
    print("invalid username")
```

Output:

```
Enter user namenit
Enter passwordnit123
welcome
```

```
>>>
```

```
===== RESTART: C:/Users/user/Desktop/python6pm/py41.py
=====
```

```
Enter user namenit
Enter passwordabc
invalid password
```

```
>>>
```

```
===== RESTART: C:/Users/user/Desktop/python6pm/py41.py
=====
```

```
Enter user namexyz
invalid username
```

```
>>>
```

Example:

write a program to find max of three numbers without using and/or operators

```
n1,n2,n3=map(int,input().split(" "))
print(type(n1),type(n2),type(n3))
if n1>n2:
    if n1>n3:
        print(f'{n1} is max')
    else:
        print(f'{n3} is max')
elif n2>n3:
    print(f'{n2} is max')
else:
    print(f'{n3} is max')
```

Output:

```
30 10 20
<class 'int'> <class 'int'> <class 'int'>
30 is max
>>>
```

map()

It is a predefined function in python

This function is available in built-ins module

Map function is used to apply a function to the list of values

Map function return a collection/iterable after applying function

Syntax: map(function,iterable)

<https://www.codechef.com/problems/HS08TEST>

```
amt,bal=map(float,input().split(" "))
if amt<bal:
    if amt%5==0:
        bal=bal-(amt+0.50)
    print(f'{bal:.2f}')
```

```

else:
    print(f'{bal:.2f}')
else:
    print(f'{bal:.2f}')

```

Output:

Looping Control Statements

Loop control statements are used to repeat one or more than one statement number of times or until given condition.

Python support two types of loop control statements

1. While
2. For

Note: there is no do..while python

While loop

While loop is called entry controlled loop, where the statements are executed after checking condition.

While loop repeat the statements until given condition is True.

Syntax-1	Syntax-2
<pre> while <condition>: statement-1 statement-2 statement-3 </pre> <p>statement-1,statement-2 are executed until given condition is True, when condition is False it stop executing loop and continue with statement-3</p>	<pre> while <condition>: statement-1 statement-2 else: statement-3 statement-4 statement-5 </pre>

