PYTHON PROGRAMMING BASICS

Select the cell operation with Markdown to write comments and documents

To Run cell use keys : Shift and Enter to Run

Concept 1: Strings

In [ ]:
```
print('hello')
```

In [ ]:
```
'hello'
```

In [ ]:
```
print('/\')
      ('/ \')
       ('/  \')
```

insertion of cell and deletion of cells

Use b letter to insert cell (1-time)

use d letter Two times to delet cell (2- times)

In [ ]:
```
print ('good')
```

In [ ]:
```
print("hello")
```

In [ ]:
```
print('hi','world')
```

Hello world

Hello

hello

Hello

1. ananconda
2. welcome
3. hello

```
multi line comments
```

```
print('hello syntax')
```

In [ ]:
```
print('hello world welcome anaconda ')
```

In [ ]:
```
a b = 10
```

In [ ]:
```
ab=10
```

In [ ]:
```
a=10
b=20
a+b
```

In [ ]:
```
a-b
```

In [ ]:
```
b-a
```

In [ ]:
```
b*a
```

In [ ]:
```
a/2
```

In [ ]:
```
a*b/2
```

In [ ]:
```
a and b
```

In [ ]:
```
a or b
```

In [ ]:
```
a xor b
```

In [ ]:
```
a not b
```

In [ ]:
```
not a
```

In [ ]:
```
a not
```

In [ ]:
```
help
```

In [ ]:
```
help(keywords)
```

In [ ]:
```
keywords
```

In [ ]:
```
help()
```

In [ ]:
```
help()
```

In [ ]:
```
help(object)
```

In [ ]:
```
help()
```

DOCUMENTATION FORMAT

HEADING1

Creation of Lists

- List1 -Sublist1
- List 2 -Sublist 2

To add Python syntax

```
print('This is markdown syntax')
```

commnets in Python

Two types :

1. sigle line comments

print(5) # displays informatio given

2. Multi line comments

``` multi line comments

iintialized in n- lines specified ```

Keywords in Python

In [ ]:
```
help()
```

Data Conversions

In [ ]:
```
a = 5
```

In [ ]:
```
type(a)
```

In [ ]:
```
org = 'JNTUACEA'
type(org)
```

In [ ]:
```
c=3.5
```

In [ ]:
```
c
```

In [ ]:
```
type(c)
```

In [ ]:
```
str(c)
```

In [ ]:
```
org ="JNTUACEA"
print(type(org))
```

In [ ]:
```
avg = 12.7
```

In [ ]:
```
type(avg)
```

In [ ]:
```
d=10
```

In [ ]:
```
type(d)
```

In [ ]:
```
str(d)
```

In [ ]:
```
d=str(d)
```

In [ ]:
```
d
```

In [ ]:
```
float(d)
```

Multiple Variables

In [ ]:
```
emp_name,emp_age,emp_id,emp_avg_salary ="JAIN",30,9999,40000
```

In [ ]:
```
emp_name
```

In [ ]:
```
emp_age
```

In [ ]:
```
emp-age,emp_id
```

In [ ]:
```
emp_id
```

Data Declerations

In [ ]:
```
ab=56
```

In [ ]:
```
a_=4
```

In [ ]:
```
a
```

In [ ]:
```
a_
```

In [ ]:
```
ab
```

In [ ]:
```
_b=6
```

In [ ]:
```
-b
```

In [ ]:
```
_b
```

In [ ]:
```
a1='abc'
```

In [ ]:
```
a =5
```

In [ ]:
```
a
```

In [ ]:
```
1a=345
```

Special Symbols

In [ ]:
```
*a=9
```

In [ ]:
```
@s =6
```

OPERATORS DECELRATION

Arithematic operators are +,-,/,*,//,% (Addition , subtraction, division, multiplication, flow division , modulus

In [ ]:
```
A=10
B=20
```

In [ ]:
```
A+B
```

In [ ]:
```
A-B
```

In [ ]:
```
A*B
```

In [ ]:
```
A/2
```

In [ ]:
```
A*B/2
```

In [ ]:
```
A%B
```

In [ ]:
```
A // B
```

Logical

In [ ]:
```
A and B
```

In [ ]:
```
A or B
```

In [ ]:
```
not A
```

In [ ]:
```
A not
```

In [ ]:
```
not B
```

In [ ]:
```
a=10
b=20

print("the sum is :", a+b)
print("the sub is :", a-b)
print("the div is :", a/b)
print("the mul is :", a*b)
print("the flowdiv is :", a//b)
print("the mod is :", a%b)
```

In [ ]:
```
g=(input("Enter a value"))
```

In [ ]:
```
type(g)
```

In [ ]:
```
g=int(input('enter a Value'))
```

In [ ]:
```
type(g)
```

In [ ]:
```
a=int(input("Enter a value"))
b= int(input("Enter a Value"))
print("the sum is :", a+b)
print("the sub is :", a-b)
print("the div is :", a/b)
print("the mul is :", a*b)
print("the flowdiv is :", a//b)
print("the mod is :", a%b)
```

In [ ]:
```
name = ['Gopi','Venkatesh','Prasannaraj','avinash','sairam',14,2429,23.0,"1429",'Gopi']
```

In [ ]:
```
name
```

While loop

In [5]:
```
count = 0
while (count<9):
    print(count)
    count = count+1
```

```
0
1
2
3
4
5
6
7
8
```

In [6]:
```
count = 0
while (count<9):
    #print(count)
    count = count+1
    print(count,end=" ") # to print output in horizontal line
```

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

In [7]:
```
count = 0
while (count<9):
    #print(count)
    count = count+1
    print(count,end="") # to print output in horizontal line without space
```

```
123456789
```

In [8]:
```
count = 0
while (count<9):
    #print(count)
    count = count+1
    print(count,end="@") # to print output in horizontal line with special symbol
```

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

for loop

syntax

for iterator name in interator:

print(iteratorname) # iteratorname is variable name

In [12]:
```
for i in range(1,10+1): # range(lb,ub-1) # lb-lower bound , ub-upper bound values
    print(i)
```

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

In [10]:
```
for i in range(1,11): # range(lb,ub-1)
    print(i)
```

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

In [13]:
```
for i in range(1,11-1): # range(lb,ub-1)
    print(i)
```

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

In [14]:
```
for i in range(1,11-1): # range(lb,ub-1)
    print(i,end=" ")
```

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

Exampel program 1:

Wirte a python program to get all the even numbers in given range ?

In [1]:
```
a= int(input("enter lower bound vlaue:"))
b=int(input("enter lower bound vlaue:"))
for i in range(a,b+1):
    if (i%2==0):  # satisfing of this condition is even value
        print(i)
```

```
enter lower bound vlaue:1
enter lower bound vlaue:100
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
```

```
84
86
88
90
92
94
96
98
100
```

In [3]:
```
 a= int(input("enter lower bound vlaue:"))
b=int(input("enter lower bound vlaue:"))
for i in range(a,b+1):
    if (i%2==0):  # satisfing of this condition is even value
        print(i,end=",") #for horizontal values seperated by ,
```

```
enter lower bound vlaue:1
enter lower bound vlaue:100
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,7
6,78,80,82,84,86,88,90,92,94,96,98,100,
```

Example 2

write a program to print mathematical table

In [6]:
```
a= int(input("enter table number:"))

for i in range(1,11):
        print(a,'*',i,'=',a*i)
```

```
enter table number:11
11 * 1 = 11
11 * 2 = 22
11 * 3 = 33
11 * 4 = 44
11 * 5 = 55
11 * 6 = 66
11 * 7 = 77
11 * 8 = 88
11 * 9 = 99
11 * 10 = 110
```

Autoincrement for every 2 values

syntax:

for in range start,endvalue,increment of range value

In [2]:
```
for i in range(1,100,2):   # odd numbers
    print(i,end=",")
```

```
1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63,65,67,69,71,73,75,
77,79,81,83,85,87,89,91,93,95,97,99,
```

In [4]:
```
for i in range(2,100,2):   # even numbers
    print(i,end=",")
```

```
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,7
6,78,80,82,84,86,88,90,92,94,96,98,
```

Example 3

Python Program to check given number is prime number or not

In [10]:
```
a= int(input("enter a value:"))
if a>1:
    for i in range(2,a):
        if(a%i==0):
            print(a,'is not prime')
        break
else:
        print(a,'is prime')
```

```
enter a value:10
10 is not prime
```

In [15]:
```
a= int(input("enter a value:"))
b=0
for i in range(1,a):
        if(a%i==0):
            b=b+1
if(b==2):
    print(a,'is not prime')
else:
        print(a,'is prime')
```

```
enter a value:5
5 is prime
```

In [16]:
```
a= int(input("enter a value:"))
b=0
for i in range(1,a+1):
        if(a%i==0):
            b=b+1
if(b==2):
    print(a,'is not prime')
else:
        print(a,'is prime')
```

```
enter a value:5
5 is not prime
```

In [24]:
```
# python Program to print prime numbers between 1 to n

a= int(input("enter a value:"))
b= int(input("enter a value:"))
for i in range(1,b+1):
    if(i>1):
        for j in range (2,i):
                if (i%j==0):
                    break
        else:
            print(i,end=',')
```

```
enter a value:1
enter a value:1000
2,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,101,103,107,109,113,127,131,137,139,14
9,151,157,163,167,173,179,181,191,193,197,199,211,223,227,229,233,239,241,251,257,263,269,271,277,281,283,29
3,307,311,313,317,331,337,347,349,353,359,367,373,379,383,389,397,401,409,419,421,431,433,439,443,449,457,46
1,463,467,479,487,491,499,503,509,521,523,541,547,557,563,569,571,577,587,593,599,601,607,613,617,619,631,64
1,643,647,653,659,661,673,677,683,691,701,709,719,727,733,739,743,751,757,761,769,773,787,797,809,811,821,82
3,827,829,839,853,857,859,863,877,881,883,887,907,911,919,929,937,941,947,953,967,971,977,983,991,997,
```

Example 4

Program to check the given numbers exised in given sequence of numbers

In [26]:
```
a=['Rai','yassir','tarn']
for i in range (1,3):
    inp=input('enter name:')
    if inp in a:
        print(True)
    else:
            print(False)
```

```
enter name:Rai
True
enter name:Yassir
False
```

In [31]:
```
a='andhrapradesh'
for i in a:
    print(i)
```

```
a
n
d
h
r
a
p
r
a
d
e
s
h
```

In [32]:
```
a=['ap','jn','tu','ce']
for i in a:
    print(i)
```

```
ap
jn
tu
ce
```

In [33]:
```
# Decending order of numbers

for i in range (10,1,-1):
    print(i)
```

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

In [35]:
```
a=[10,25,12,45,70]
for i in range(1,6):
    inp=int(input("enter the value to check:"))
    if inp in a:
        print(True)
    else:
        print(False)
```

```
enter the value to check:10
True
enter the value to check:15
False
enter the value to check:25
True
enter the value to check:12
True
enter the value to check:45
True
```

In [ ]: