24 Nov

loops

→ while

→ for

find the square

0
1
2
3
4
5
6
7

✓ List

↳ [0, 1, 4, 9, 16 ...]

```
for i in range(5):
    print(i**2)
```

(2)

```
L = [ ]
for i in range(5):
    L.append(i**2)

print(L)
```

Q: print the list of odd & even number separately

[7, 6, 9, 2, 5, 4, 12]

o/p => odd => 7, 9, 5

even => 6, 2, 4, 12

Rem

9/2 => 4 => 1

8/2 => 4 => 0

% 9%2 => 1

9%2 => 0

```
odd = []
even = []

for i in L:
    if (L[i] % 2 == 0):
        even.append(L[i])

    else:
        odd.append(Li)
```

So print the list of +ve & -ve number

L = [1, -2, 7, -2, 7, 8, -7, -6, 4]

positive

negative

```
p = []
n = []
```

```
for i in range(N)
    if(L[i]>=0):
        p.append(L[i])
    else:
        n.append(L[i])

print(p)
print(n)
```

Break

```
for i in range(5):
    if i == 4:
        break
    print(i)
```

Continue

```
for i in range(5):
    if (i == 4):
        continue
    print(i)
```

User defined functions

↳ set of code used to perform particular task

→ code Reusability
→ less coding

How to create function

```
def function-name():
    print("this is my 1st function demo")
```

C++/Java

```
void fname(){
    →
    →
    →
}
```

Calling a function

```
def demo():
    print("this is my 1st function demo")

demo()
```

```
def address():
    print("Anudip foundation")
    print("Dolikaha")
    print("8802378109")
```

for i in range(5)

→ a = input("Enter your name")

→ b = input("Enter your marks")

address()

i=0	i=1	i=2
Arun	Ankit	Tushar
85	80	→
AF	→	→
KOL	→	—
phe	—	—

```
def demo(name): # parameter
    print(name)

demo("Arun") # argument
```

Q: swapping of 2 number

a = 10

b = 20

o/p

a = 20

b = 10

Soln:

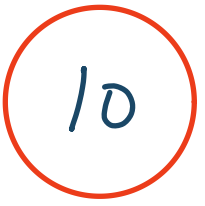
```
a = b
b = a
print(a)  # 20
print(b)  # 20
```

①

```
temp = a
a = b
b = temp
```

temp

a



b

a = 20

b = 10

②

a = 10

b = 20

a = a + b

b = a - b

a = a - b

a + b - b

// 30

// a + b - b = 10

// 30 - 10 = 20

(3)

```
a = 10
b = 20
a, b = b, a
```

(4)

```
a = 10
b = 20
a = a^b
b = a^b
a = a^b
```

a	b	and	OR	XOR
0	0	0	0	0
0	1	0	1	1
1	0	0	1	1
1	1	1	1	0

Q: { 1, 2, 1, 7, 6, 9, 2, 3 }

{ 7, 6, 9, 3 }

Approach 1: iterate over list, & check whether the no is present or not

$O(N^2)$

(2) $1 \rightarrow 2$

$2 \rightarrow$

$3 \rightarrow$

$7 \rightarrow$ (1)

(3) 1 4 1 7 6 9 3 2

How to take character as input

```
# a = input("Enter the character")
# Accept
print(a)

# c
print(a)
    c
```

0 1 2 3

Accept

-4 -3 -2 -1

```
ch = input("Enter the word")
print(ch[0])
```

```
ch = input("Enter the word")[0]
print(ch)
```

Evaluating the Expression

```
result = eval(input("Enter the expression"))
print(result)
```

Q: $n <= 100 \Rightarrow$ bill $\Rightarrow$ 5 unit

$\Rightarrow n(100-200) \Rightarrow 10$ unit

$\Rightarrow n(200-500) \Rightarrow 20$

$>500 \Rightarrow 30$ unit

```python
def find(n):  1 usage
    if n<=100:
        print("Your bill is ", n*5)
    elif(n > 100 and n <= 200):
        print("Your bill is ", n * 10)

    elif (n > 200 and n <= 500):
        print("Your bill is ", n * 20)

    else:
        print("Your bill is ", n * 30)

for i in range(3):
    a = input("Enter your name")
    n = int(input("Enter your Unit Consumed"))
    find(n)
```

```python
def demo(first_name):  3 usages
    print("Hello" + " " +    first_name)

demo("Arun")
demo("Amit")
demo("Abhishek")
```

```python
def demo(first_name, last_name):  3 usages
    print(first_name + " " + last_name)

demo( first_name: "Arun", last_name: "Sharma")
demo( first_name: "Amit" ,  last_name: "yadav")
demo( first_name: "Abhishek",  last_name: "Gupta")
```

String

↳ sequence of character

ASCII

0 1 2 3 4 5 6 . . . . .

Arun Kumar Sharma

. . . . . -3 -2 -1