

Class_3

Loops has 3 part

1. Initialization **Control Varivial**
2. Condition
3. Update

While and for loop is used in the python

1. Ideal loop is the while loop.

Definite and indefinite

- For loop is used iteration is fixed definite
 - Indefinite iteration ahh While loop is possible.
-
- Do while is also done in python use in while
 - Python is used incrementally and decremental is not used like $i++$, $i--$,

```
sum = 0

i = 1

while i <= 50:

    sum = sum + i

    i = i + 1

print(sum)
```

1. Print Number from 15 to 30

```
sum = 0

i = 15

while i <= 30:

    sum = sum + i

    i = i + 1

print(sum)

360
```

2. Sum first n natural numbers

```
n = int(input("Enter a number: "))

sum = n * (n + 1) // 2

print("Sum of first", n, "natural numbers is:", sum)
```

- **Any Non zero number is true for the Computer**
- **0 > Additive identity**
- **1 > Multiplicative identity**

"Write a Python program that takes a number as input from the user and calculates the sum of its digits."

Sum = 0

While n > 0

d = n % 10

n = n / 10

sum_+ = d

```
n = int(input("Enter a number: "))
```

```
sum = 0
```

```
while n > 0 :
```

```
    d = n % 10
```

```
    n = n // 10
```

```
    sum = sum + d
```

```
print(sum)
```

List

A = [36,69,24, 32, 45]

Minimum or Maximum first index takah max A[0]

```
A = [36, 69, 24, 32, 45, 62, 45, 93]

max_val = A[0]

max_index = 0


i = 0

while i < len(A):

    if A[i] > max_val:

        max_val = A[i]

        max_index = i

    i += 1


print("Maximum value:", max_val)

print("Index of maximum value:", max_index)
```

Breaking out of Loop:

Jokhon negative number paboh tokhono continue korboh