🌟 Range & Loops in Python 🚀

🔢 Range

📌 Syntax

```
range(start, stop, step)
```

```python
print(list(range(10)))
print(list(range(0,10,1)))
print(list(range(0,20,2)))
print(list(range(-10,0,1)))
```

📝 **WAP (Write a Program)**

✅ Display only the odd numbers from 0 to 20 using **range()**

✅ Display only the even numbers from 0 to 20 using **range**

✅ Display the numbers from 10 to 1 in descending order using **range()**

🔁 Iterative Statements

◆ **Types of Loops**

🔄 **For Loop**

```python
for element in range(1,5):
    print(element)
```

🔢 **Print Even Numbers**

```python
for i in range(20):
    if i%2 == 0:
        print(i)
```

📝 **WAP**

✅ Print the sum of given numbers within a list using for loop

```python
lst1 = list(range(21))
result = 0
for i in lst1:
    print('i = ', i)
    result = result + i
    print("result = ", result)
print(result)
```

🔄 While Loop

✅ Print numbers from 0 to 5

```python
i = 0
while i <= 5:
    print(i)
    i += 1
```

✅ Print "Python" 3 times using while & for loop

```python
for i in range(3):
    print("Python")


count = 1
while count < 4:
    print("Python")
    count += 1
```

✅ Display the sum of first n numbers using while loop

```python
n = 10
val = 0
result = 0
while val <= n:
    result += val
    val += 1
print(result)
```

✅ Print multiplication table of 15

```python
number = 15
for i in range(1,11):
    print(number, "X", i, "=", number*i)
```

✅ Keep asking user for input until they type 'Python'

```python
name = ""
while name != "Python":
    name = input("Enter the name: ")
    print(name)
```

✅ Infinite Loop Example

```python
while True:
    print("Hello world")
```

🔄 Nested Loops

```python
for i in range(10):
    for j in range(i):
        print("i =", i, "j =", j)
```

🌟 **Pattern Printing**

✅ Increasing Star Pattern

```python
for i in range(5):
    print("*" * i)
```

✅ Decreasing Star Pattern

```python
for i in range(5, 0, -1):
    print('*' * i)
```

🔀 Transfer Statements

⚡ pass

```python
def dummy():
    pass


class demo:
    pass
```

⏭ continue

```python
for i in range(20):
    if i % 5 == 0:
        continue
```

🛑 break

```python
idx = 0
while True:
    idx += 1
    print(idx)
    if idx == 10:
        break
```