Looping

Statement while, while bersarangan, do while
Chapter 4

Teknik Pemprograman

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Looping

A loop in a programming language functions to tell the computer to do something repeatedly. There are two types of loops in the Python programming language, namely loops with for and while.

The for loop is called a counted loop, while the while loop is called an uncounted loop. The difference is that the for loop is usually used to repeat code that is already known to have many repetitions. While while is for a loop that has conditions and is not certain how many repetitions it will have.

While Loop

The While Loop repetition in the Python programming language executes statements many times as long as the condition evaluates to True.

Below is an example of using a While Loop repetition.

```
temp.py*
1 count = 0
2 while (count < 10):
3     print ("The count is: ", count)
4     count = count + 1
5
6 print ("Looping")
```

```
In [3]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
The count is:  0
The count is:  1
The count is:  2
The count is:  3
The count is:  4
The count is:  5
The count is:  6
The count is:  7
The count is:  8
The count is:  9
Looping
```

While Loop

```
temp.py ⊠
1 counter = 0
2
3 while counter < 3:
4     print("Perulangan")
5     counter = counter + 1
6 else:
7     print("Perulangan lain")
```

```
In [5]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
Perulangan
Perulangan
Perulangan
Perulangan lain
```

While Loop

```
temp.py*
1 i = 0
2
3 while i < 10:
4     print("WHILE:", i)
5     i += 1
6
```

```
In [12]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
WHILE: 0
WHILE: 1
WHILE: 2
WHILE: 3
WHILE: 4
WHILE: 5
WHILE: 6
WHILE: 7
WHILE: 8
WHILE: 9
```

For Loop

The for loop in Python has the ability to iterate over items of any sequence, such as lists or strings.

Below is an example of using a For Loop repetition.

```python
for x in range(10):
    print("Hello World")
```

```
In [8]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
Hello World
```

```python
bil = int(input('Jumlah bilangan yang diinginkan: '))

for i in range(1,bil+1):
    print(i*2, end=" ")
```

```
Jumlah bilangan yang diinginkan:  10
2 4 6 8 10 12 14 16 18 20
```

For Loop

```
1  #perulangan
2  angka = [1,2,3,4,5,6,7,8,9,10]
3  for x in angka:
4      print(x)
5
6  #perukangan
7
8  buah = ["merpati", "elang", "garuda"]
9  for binatang in buah:
10     print ("kelaksi burung ", binatang)
```

```
In [6]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
1
2
3
4
5
6
7
8
9
10
kelaksi burung  merpati
kelaksi burung  elang
kelaksi burung  garuda
```

For Loop

```python
names = ["Syaeful", "Kaka", "Pipi", "Nana"]

for name in names:
    print(name)
```

```
In [10]: runfile('C:/Users/btmsakla/.spyder-py3/temp.py', wdir='C:/Users/
btmsakla/.spyder-py3')
Syaeful
Kaka
Pipi
Nana
```

For Loop

```
tinggi = int(input("Input Tinggi : "))

for i in range (tinggi):
    for j in range (tinggi-i):
        print(' ',end='')

    for k in range (i+1):
        print('* ',end='')
    print()
```

```
Input Tinggi :  4
   *
  * *
 * * *
* * * *
```

```
[3]: # Input besar persegi
besar_persegi = int(input("Input besar persegi: "))
print("\n")

# Menggambar persegi bintang
for i in range(besar_persegi):
    for j in range(besar_persegi):
        print("* ", end="")
    print()  # Pindah ke baris berikutnya
```

```
Input besar persegi:  4


* * * *
* * * *
* * * *
* * * *
```

1. Buatlah sebuah kode program, untuk mencetak Nilai bilangan ganjil < 7;

2. Buatlah sebuah kode program untuk mencetak Deret berikut 1+2+3+4+..., dengan syarat jumlah Nilai total < 40; (1+2+3+4.....+39)

1. Buatlah program utk menghitung keuntungan berikut ini, jika budi belanja di toko alfa lebih dari 300 maka akan mendapat diskon 15 % dan jika belanja di bawah 300 tidak mendapat diskon

2. Buatlah program utk menampikan seperti di bawah ini :

Aku

Aku Mahasiswa

Aku Mahasiswa UIB