

TIS181P ALGORITMA DAN PEMROGRAMAN

Praktikum 6 - Looping

Looping

- **Sebuah perintah untuk mengulang dengan kondisi tertentu.**
- **Jika kondisi terpenuhi maka perulangan tersebut bisa berhenti dengan sendirinya**

- **FOR**
- **WHILE**

FOR

Teknik pengulangan dengan iterasi (pengecekan item per item). Contoh:

```
primas = [2, 3, 5, 7]  
for prima in primas:  
    print(prima)
```

```
>>> 2 3 5 7
```

Contoh

```
>>> ayam = [10,"Ayam","Digoreng",500]
```

```
>>> for item in ayam:
```

```
...     print(item)
```

```
...
```

```
10
```

```
Ayam
```

```
Digoreng
```

```
500
```

Contoh

```
>>> nilai = [90,60,20,60,54,74]
```

```
>>> jumlah = 0
```

```
>>> for item in nilai:
```

```
...     jumlah+=item
```

```
...
```

```
>>> print(jumlah)
```

```
358
```

```
>>>
```

Contoh Hitung Rata-Rata

```
>>> nilai = [100,80,75,90,65,87]
```

```
>>> counter = 0
```

```
>>> jumlah = 0
```

```
>>> for item in nilai:
```

```
...     counter+=1
```

```
...     jumlah+=item
```

```
...
```

```
>>> rata=jumlah//counter
```

```
>>> print(rata)
```

```
82
```

FOR untuk Range (Jangkauan)

```
# Prints out the numbers 0,1,2,3,4  
for x in range(5):  
    print(x)
```

```
# Prints out 3,4,5  
for x in range(3, 6):  
    print(x)
```

```
# Prints out 3,5,7  
for x in range(3, 8, 2):  
    print(x)
```

Contoh

```
>>> for x in range(10):  
...     if(x%2==0):  
...         print("%d adalah Genap"%x)  
...  
0 adalah Genap  
2 adalah Genap  
4 adalah Genap  
6 adalah Genap  
8 adalah Genap
```


While

Bekerja dengan kondisi tertentu (Boolean)

Cocok untuk mengakses indeks dengan nomor tertentu

```
# Prints out 0,1,2,3,4
```

```
count = 0
```

```
while count < 5:
```

```
    print(count)
```

```
    count += 1
```

Contoh

```
>>> nilai = [100,80,75,90,65,87]
```

```
>>> counter = 0
```

```
>>> while counter < 7:
```

```
...     print(nilai[counter])
```

```
...     counter += 2
```

```
...
```

```
100
```

```
75
```

```
65
```

```
IndexError: list index out of range
```

Break dan Continue

Prints out 0,1,2,3,4

count = 0

while True:

print(count)

count += 1

if count >= 5:

break

Break dan Continue

Prints out only odd numbers - 1,3,5,7,9

for x in range(10):

Check if x is even

if x % 2 == 0:

continue

print(x)

ELSE di FOR dan WHILE

Prints out 0,1,2,3,4 and then it prints "count value reached 5"

count=0

while(count<5):

print(count)

count +=1

else:

print("count value reached %d" %(count))

Contoh Lain

```
>>> a = [100,90,80,70]
>>> counter = 0
>>> while counter < 4:
...     print(a[counter])
...     counter+=1
... else:
...     print("Selesai")
...
```

ELSE di FOR dan WHILE

Prints out 1,2,3,4

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

```
    if(i%5==0):
```

```
        break
```

```
    print(i)
```

```
else:
```

```
    print("this is not printed because for loop is  
terminated because of break but not due to fail  
in condition")
```

Kombinasi BREAK dan ELSE

```
>>> counter = 0
>>> while counter < 7:
...     if counter == 5:
...         break
...     else:
...         print(nilai[counter])
...         counter+=1
... else:
...     print("Selesai")
... 
```


Latihan 1

A = [100,90,34,76,34,67,98]

B = [75,23,76,89,90,45,67,78]

Gunakan FOR untuk menghitung JUMLAH dan RATA-RATA. Total data bisa didapatkan menggunakan counter.

Latihan 2

Angka = [90,98,45,23,89,87,21,54,98,32]

Dengan menggunakan WHILE, tunjukkan mana saja angka yang merupakan angka GANJIL dan angka GENAP. Gunakan MODUS (%) untuk mencari tahu.

Petunjuk: IF ELSE