

Pemrograman Berbasis Obyek

Flow Control dan Looping

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Konten

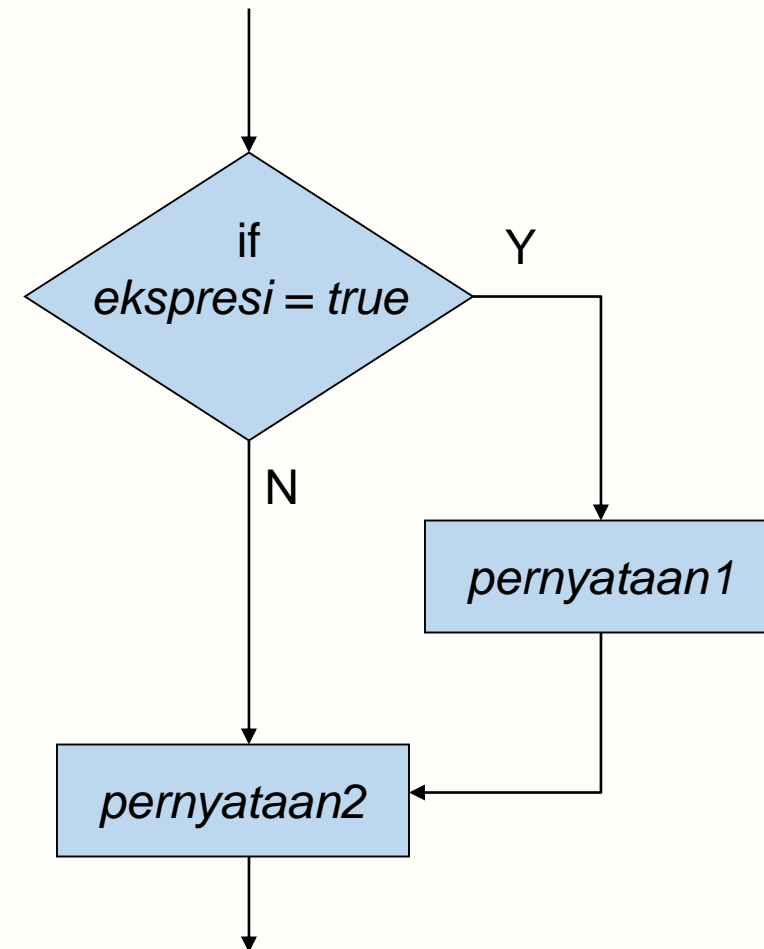
- Selection statements
- Looping statements
- Special loops

The Selection Statements

- *if*
- *if-else*
- *else-if*
- *switch*

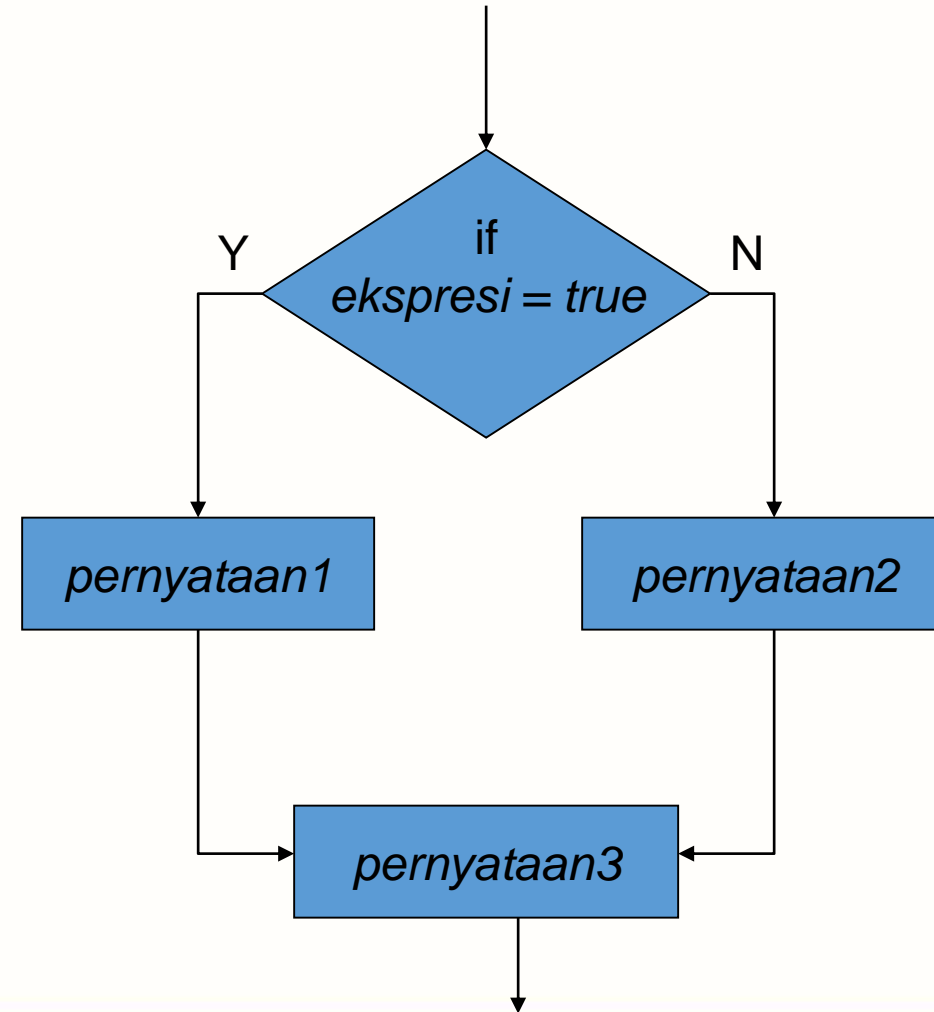
Selection Statement “if”

```
if (ekspresi boolean) {  
    pernyataan1;  
}  
pernyataan2;
```



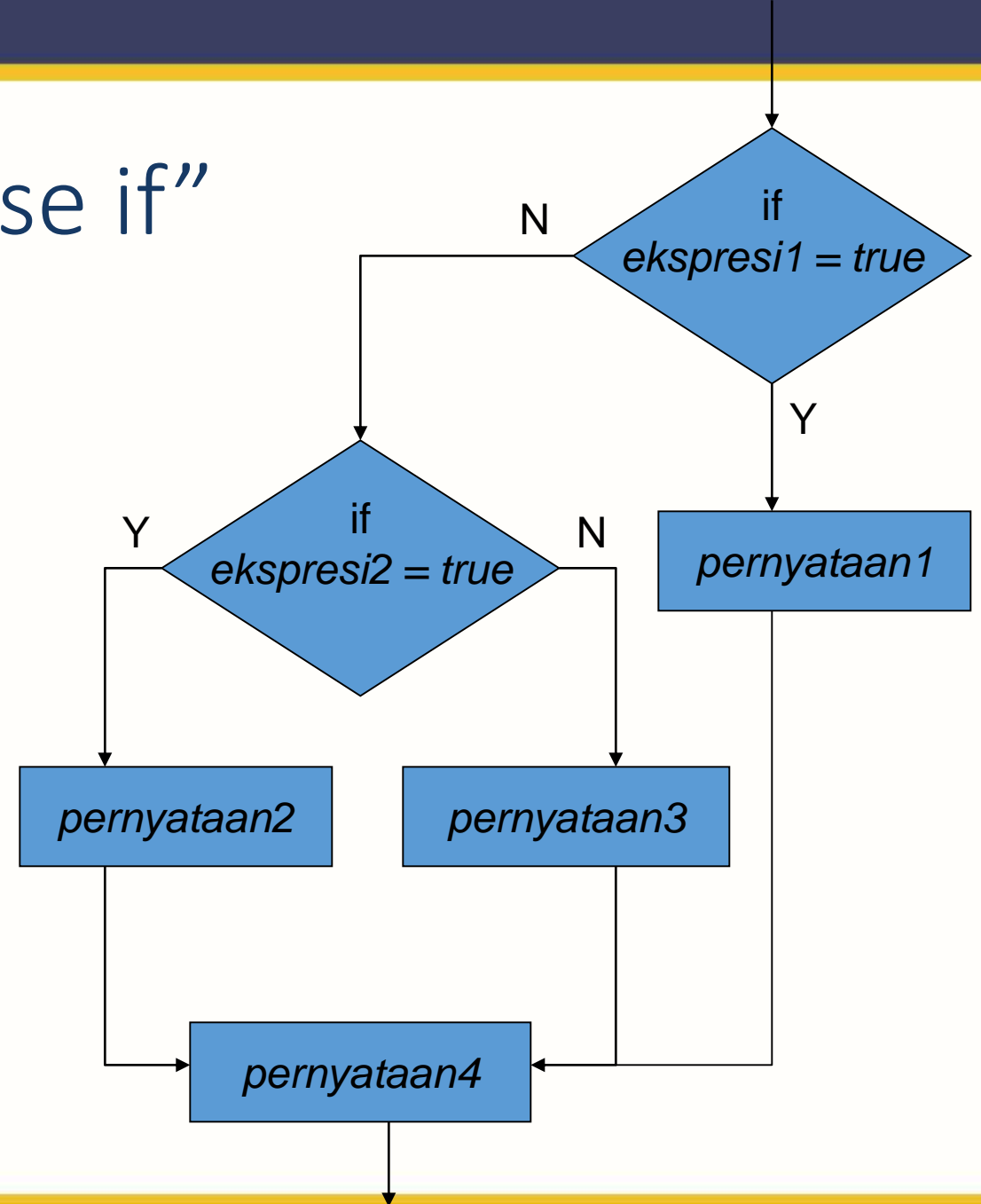
Selection Statement “if-else”

```
if (ekspresi boolean) {  
    pernyataan1;  
} else {  
    pernyataan2;  
}  
pernyataan3;
```



Selection statement “else if”

```
if (ekspresi boolean1)
{
    pernyataan1;
} else if (ekspresi
boolean2) {
    pernyataan2;
} else {
    pernyataan3;
}
pernyataan4;
```



Selection Statement “if”

- Statement `if ()` menerima ekspresi boolean, **bukan numeric value.**
- Kita tidak bisa melakukan konversi atau casting terhadap tipe boolean dan tipe numeric.
- Contoh salah:

```
if (x) // x is int
```

Contoh benar

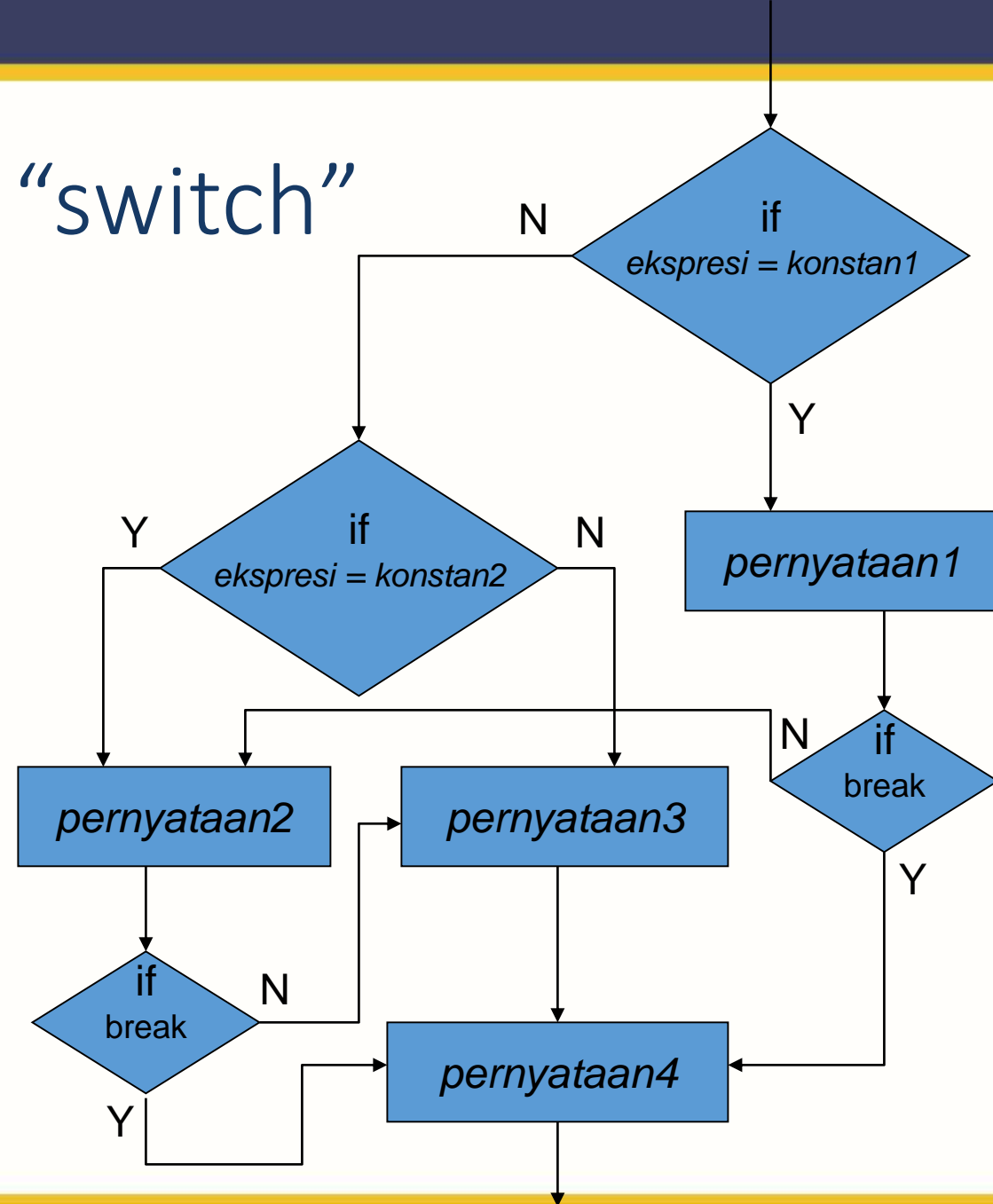
```
if (x!=0)
```



Selection statement "switch"

```

Switch (ekspresi) {
  case konstanta1 :
    pernyataan1;
    break;
  case konstanta1:
    pernyataan2;
    break;
  default :
    pernyataan3;
}
pernyataan4;
    
```



Selection statement “switch”

- Variabel x harus bertipe byte, short, char, atau int.
- floating point, long, atau class references (termasuk String) tidak diperbolehkan.
- In Java SE 7 and later, you can use a String object in the switch statement's expression.
- Kedudukan statement pada default dalam switch sama dengan kedudukan else pada if-else.

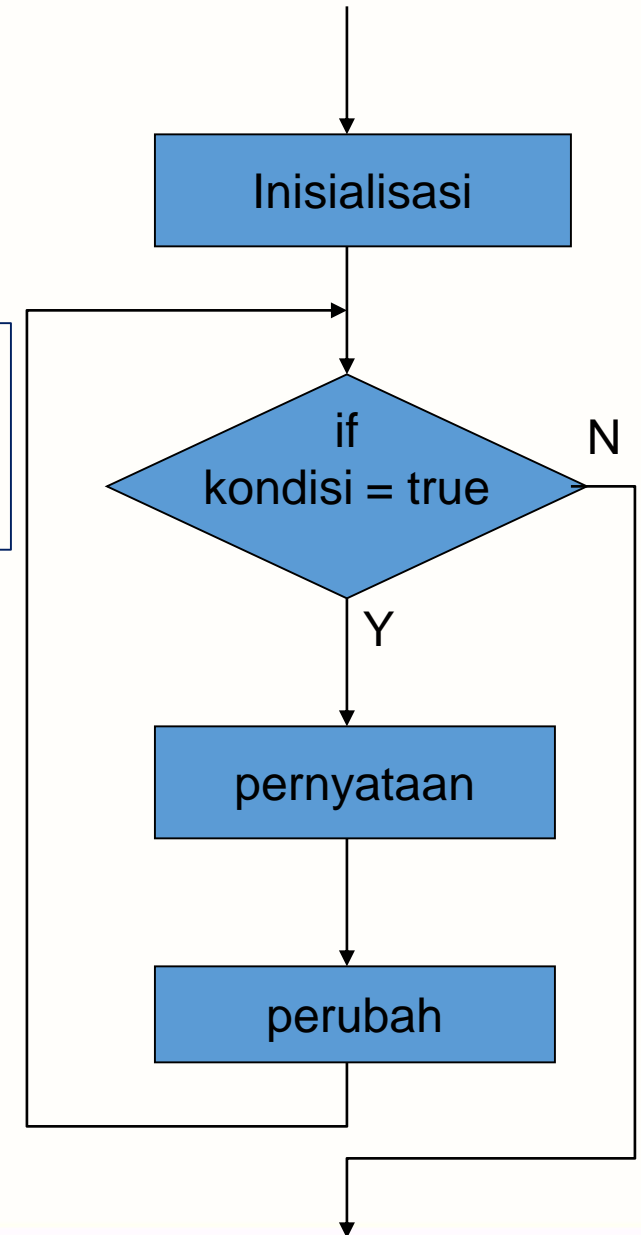
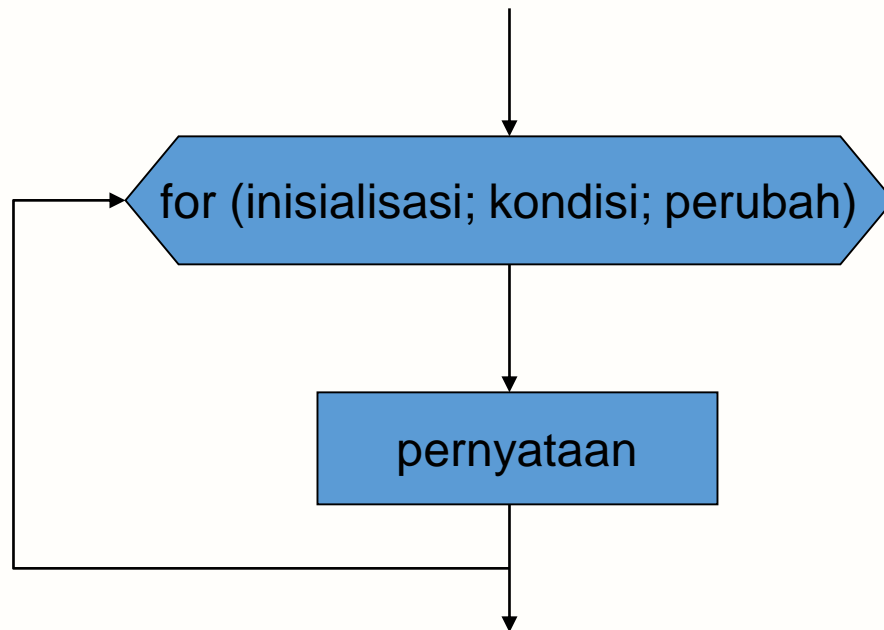


The Loop Statements

- The `for ()` Loop
- The `while ()` Loop
- The `do - while ()` Loop

Looping "for"

```
for (inisialisasi; ekspresi boolean; perubah) {  
    pernyataan;  
}
```



Looping “for”

- Java programming memperkenalkan penggunaan pemisah commadalam struktur looping for
- Example:

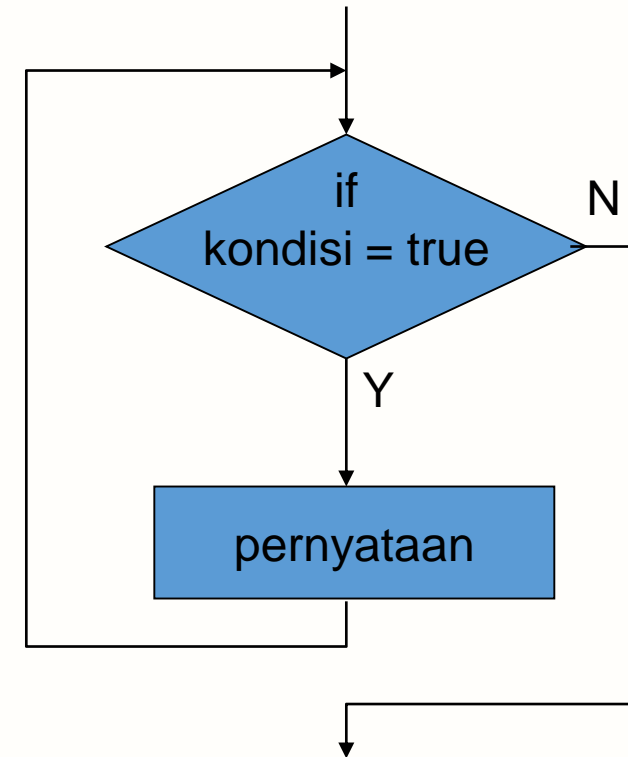
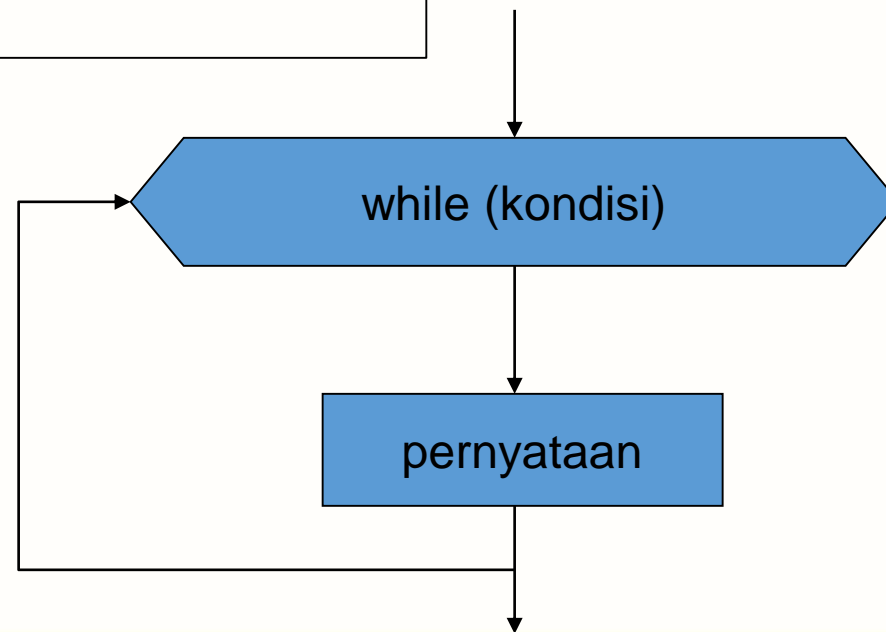
```
for (i=0, j=0 ; j<10; i++, j++) { }
```

Array dalam looping “for”

```
int[] numbers = {1,2,3,4,5,6,7,8,9,10};  
for (int item : numbers) {  
    System.out.println("Count is: " + item);  
}
```

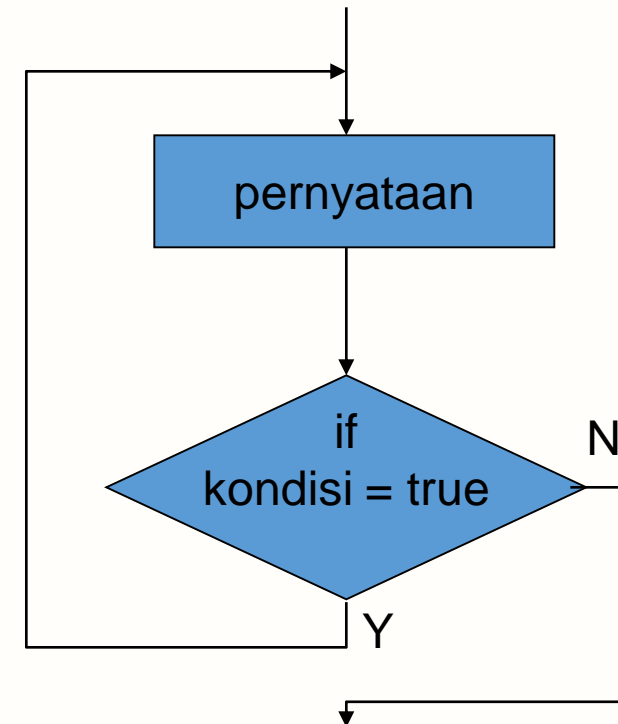
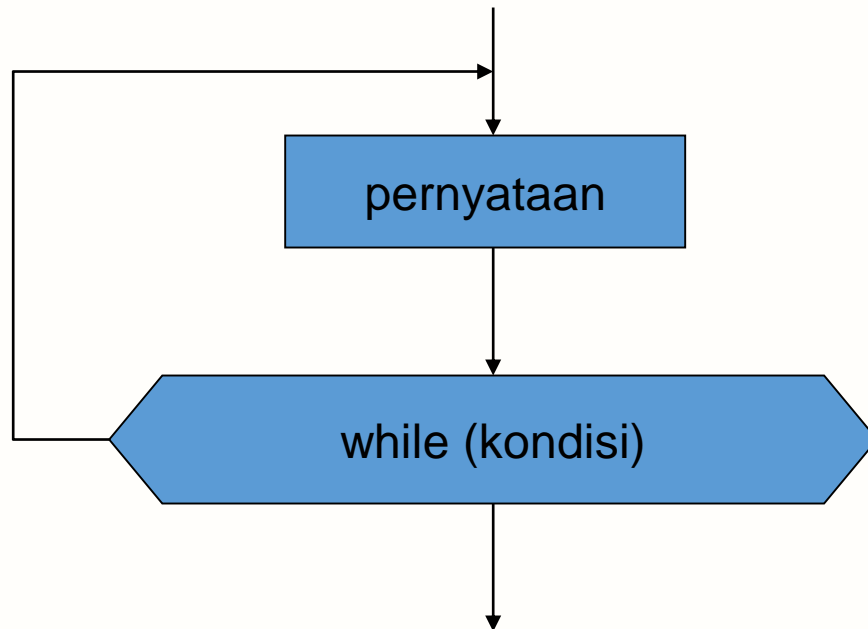
Looping “While”

```
while (ekspresi boolean)
{
    pernyataan;
}
```



Looping “do-while”

```
do {
    pernyataan;
} while (ekspresi boolean);
```



Special Loop control

- break [label];
- continue [label];
- label : statement;

//statement ini berupa loop

Special Loop Control

- **break** digunakan untuk keluar (“prematurely exit”) dari switch statements, loop statements, dan labeled blocks.
- **continue** digunakan untuk meneruskan (“skip over and jump) ke akhir dari loop body, dan kembali ke loop control statement.
- **label** digunakan untuk mengidentifikasi statement lain dimana statement lain ini meminta supaya block statement pada label ini dikerjakan.



Special Loop Control “break”

```
int i = 0;
do {
    System.out.print(i+"Are you finished yet?");
    if(i==5){
        break;
    }
    System.out.println(" not yet");
    i++;
} while (i < 10);
System.out.println("Done");
```

Special Loop Control “continue”

```
int i = 0;
do {
    if(i%2 == 0 ){
        continue;
    }
    System.out.println (i+" adalah genap");
    i++;
} while (i < 10);
```

Special Loop Control “label”

```
labelxxx:
do {
    statement;
    do{
        statement;
        if(Boolean expression){
            break labelxxx;
        }
        statement;
    }while (Boolean expression);
    statement;
} while (Boolean expression);
```

```
labelyyy:
do {
    statement;
    do{
        statement;
        if(Boolean expression){
            continue labelyyy;
        }
        statement;
    }while (Boolean expression);
    statement;
} while (Boolean expression);
```

Tugas

1. Sebutkan dan jelaskan berbagai macam sintaks percabangan yang digunakan di Java!
2. Sebutkan dan jelaskan berbagai macam sintaks perulangan yang digunakan di Java!
3. Jelaskan perbedaan if-else dan switch-case!
4. Jelaskan perbedaan perulangan for dan while!
5. Jelaskan perbedaan perulangan while dan do-while!



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