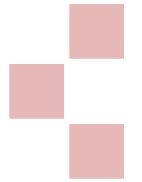
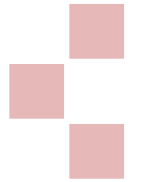


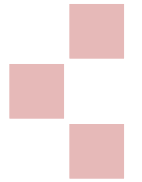
Control-Flow Statement In Java

Nurochman



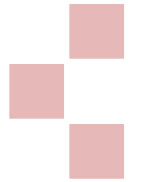
The Selection Statement

- If
- If-else
- If-Else-if
- switch



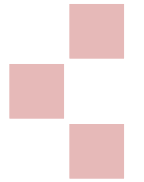
Statement if

```
if (condition/boolean exp)
   statement;

if (condition/boolean exp) {
   statement1;
   statement2;
}
```



Contoh program if

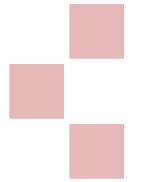
```
class IfDemo{
public static void main(String args[]){
int x=6;
final int limit = 5;
if (x > limit){
System.out.println("Only printed");
System.out.println("If x is more than 5");
}
}
}
```



Statement if-else

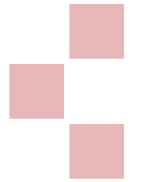
```
if (condition/boolean exp)
    statement1;
else
    statement2;
```

```
if (condition/boolean exp) {
    statement1;
    statement2;
} else {
    statement3;
    statement4;
}
```



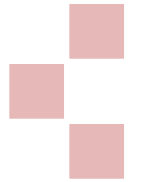
Contoh program if-else

```
class IfElseDemo{
   public static void main(String args[]){
     int x=6;
     final int limit=5;
     if (x == limit)
        System.out.println("Equal to 5");
     else
        System.out.println("Not equal to 5");
   }
}
```



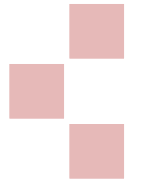
Statement if-else-if

```
if (condition/boolean exp) {
   statement1;
} else if (condition/boolean exp) {
   statement2;
} else {
   statement3;
}
statement4;
```



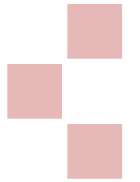
Contoh program if-else-if

```
int grade = 68;
If ( grade > 90 ) {
    System.out.println("Very good!");
} else if( grade > 60 ) {
    System.out.println("Very good!");
} else {
    System.out.println("Sorry you failed");
}
```



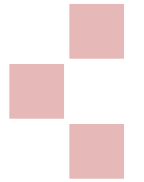
Statement switch

```
switch( switch_expression ){
  case case_selector1:
      statement1;
      statement2; //block 1
      . . .
      break;
  case case_selector2:
      statement1;
      statement2; //block 2
      . . .
      break;
  default:
      statement1;
      statement2; //block n
      . . .
      break;
}
```



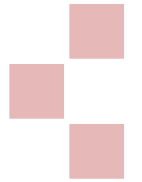
switch(x)

- Variabel x harus bertipe byte, short, char, int.
- Floating point, long, atau class references (termasuk String) tidak diperbolehkan.
- Kedudukan statement pada default sama dengan kedudukan else pada if-else.



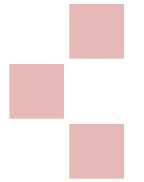
Contoh program switch

```
switch(food) {
  case 1:
    System.out.println("Chicken");
    break;
  case 2:
    System.out.println("Pizza");
    break;
  default:
    System.out.println("Sorry, we are out");
}
```



The loop/iterative statement

- for
- while
- do-while



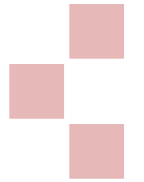
for syntax

```
for (inisialisasi; kondisi; iterasi) {
  statement1;
  statement2;
  . . .
}
```

Inisialisasi : dieksekusi satu kali

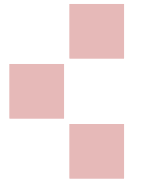
Kondisi : dieksekusi sebelum statement

Iterasi: dieksekusi setelah statement



Contoh program for

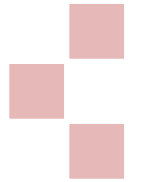
```
for (int j=10; j>=0; j=j-2 ) {
  System.out.println("j is " + j);
   if (j>x)
      break;
}
```



for

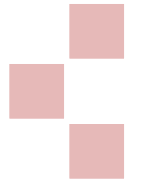
- Java programming language allows the comma separator in a for() loop structure.
- Example:

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



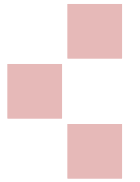
while syntax

```
while( condition ) {
    statement1;
    statement2;
    . . .
}
```



Contoh program while

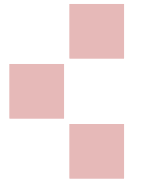
```
int x = 0;
while (x<10) {
    System.out.println(x);
    x++;
}
```



Apa yg terjadi???

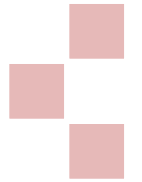
```
int i = 4;
while ( i > 0 ){
    System.out.println(i);
    i++;
}
```

Catatan: harus ada statement yg menyebabkan kondisi=false, shg perulangan suatu saat akan berhenti.



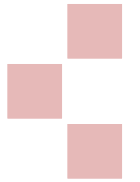
do-while syntax

```
do {
    statement1;
    statement2;
    . . .
} while( condition );
```



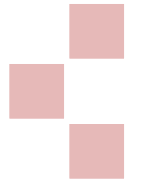
Contoh program do-while

```
int x = 0;
do {
    System.out.println(x);
    x++;
} while (x<10);
```



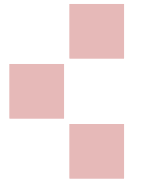
break dan continue

- The **`break`** statement is similar to C++:
  - get out of a loop or case
- **`break`** can also specify a loop *target* (a label in the code). This allows **`break`** to jump out of nested loops.
- **`continue`** is used in loops to jump back to the beginning of the loop (skipping any statements between the **`continue`** and the end of the loop).



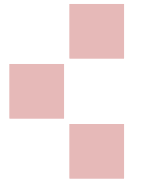
break berlabel dan tdk berlabel

```
for (int i=0;i<10;i++) {
   System.out.println("i is " + i);
   if (i==3) break;
}

outer: for (int j=0;j<5;j++) {
   for (int k=0;k<5;k++) {
     if (k==3) break outer;
     System.out.println("j,k: " + j + "," + k);
   }
}
```



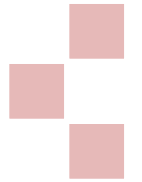
continue berlabel dan tdk berlabel

```
for (int i=0;i<10;i++) {
   if (i==3) continue;
   System.out.println("i is " + i);
}

outer: for (int j=0;j<5;j++) {
   for (int k=0;k<5;k++) {
     if (k==3) continue outer;
     System.out.println("j,k: " + j + "," + k);
   }
}
```



Tambahan

Lihat Modul JENI-Intro1-BAB06-Struktur Kontrol hal 1-akhir



Tugas

- Hitung pangkat sebuah nilai berdasarkan angka dan nilai pangkatnya. Buat tiga versi dari program ini menggunakan while loop, do-while dan for-loop.
- Buatlah program untuk konversi dari bilangan biner ke desimal!

Pertanyaan???