

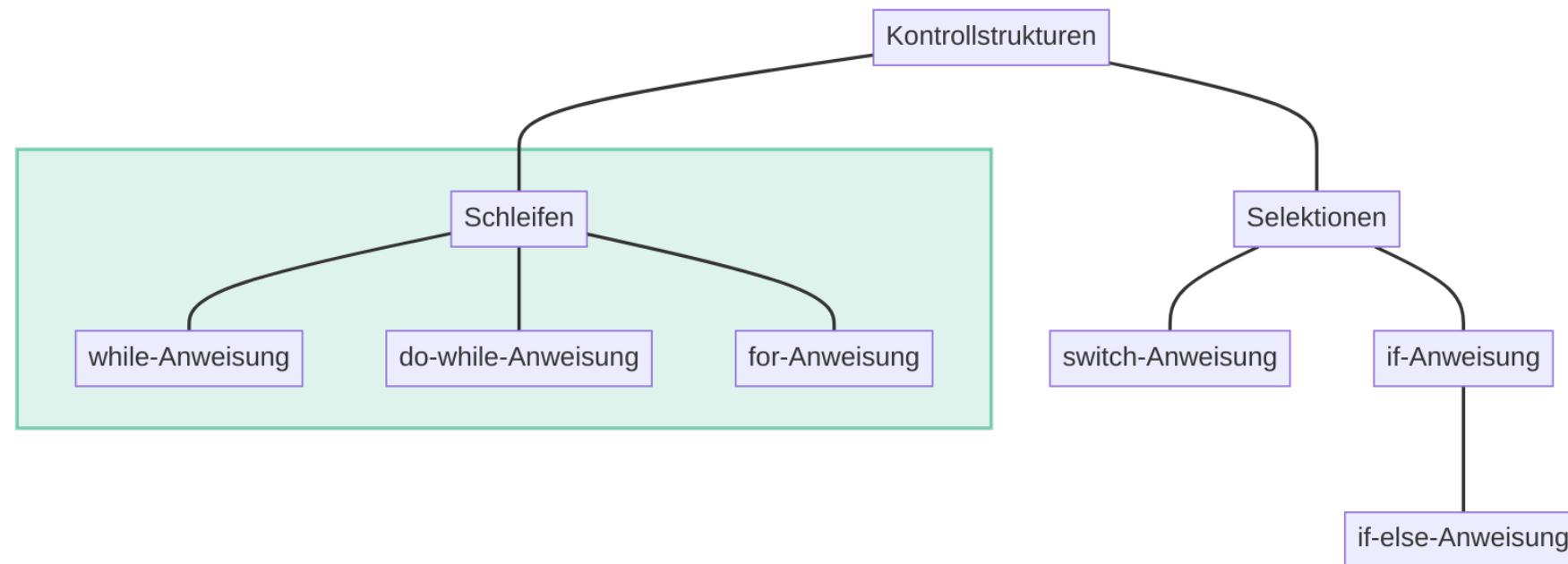


Schleifen und Wiederholungen

Kontrollstrukturen

Vergleichs- und logische Operatoren kommen ebenfalls zum Einsatz, wenn man etwas

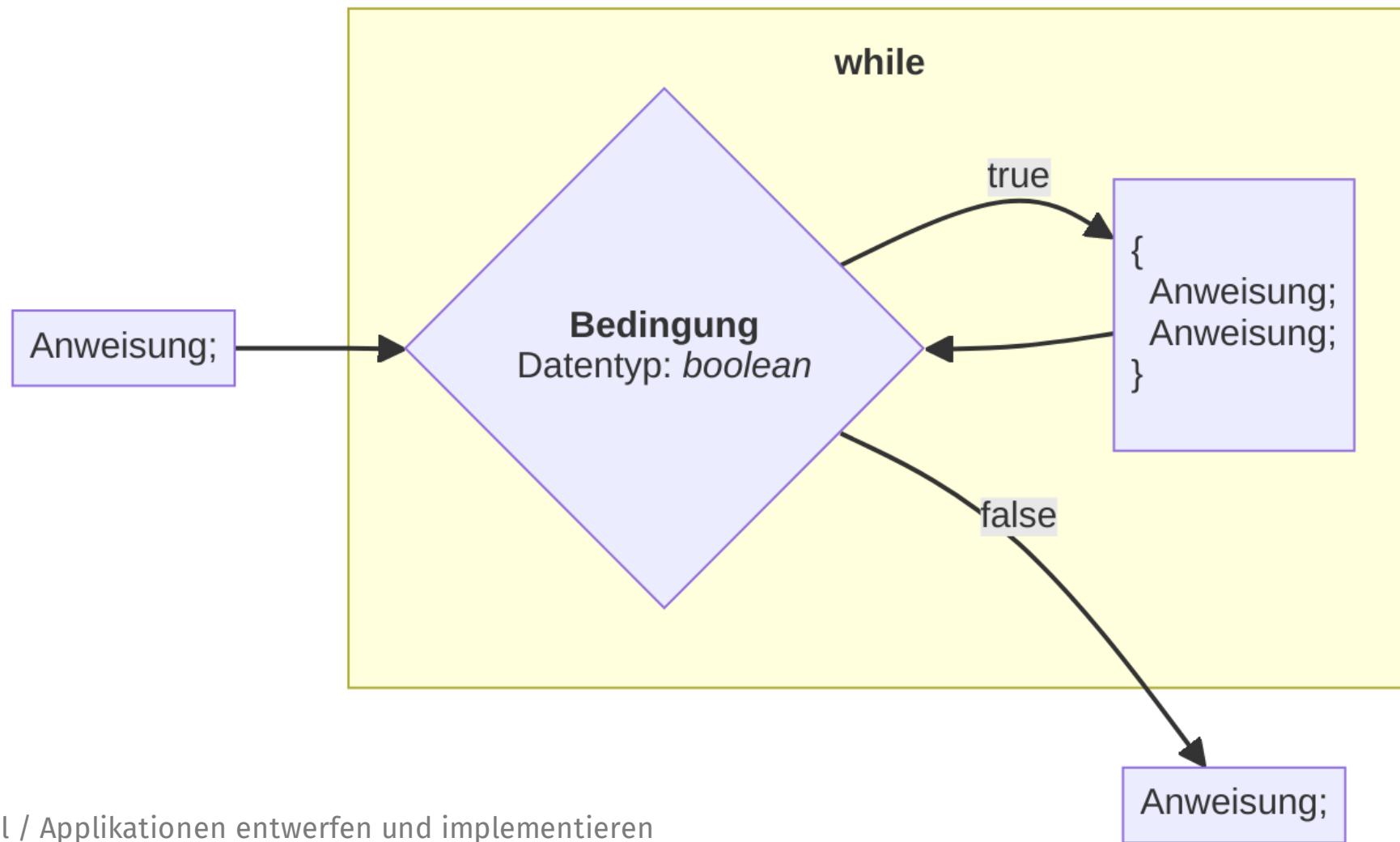
nur **unter einer bestimmten Bedingung wiederholen** soll.





Zuerst Prüfen
dann solange machen bis
ein Status erreicht wird

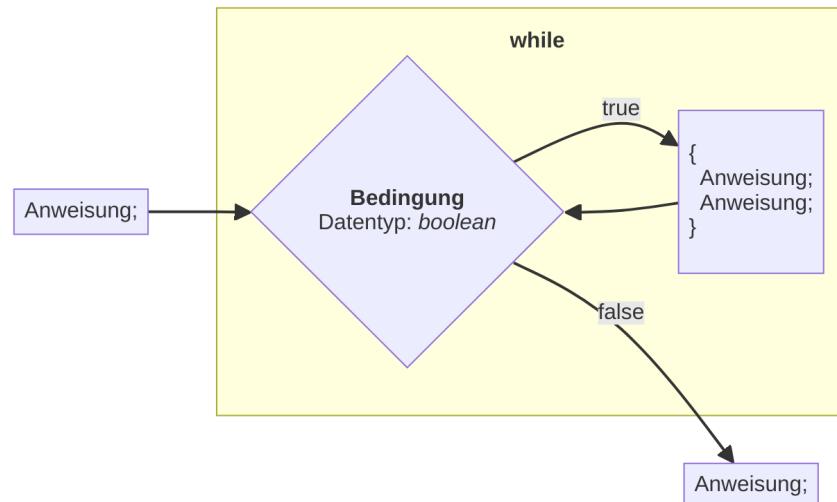
while - Schleife



while - Schleife

Schema

```
while (<Bedingung>) {  
    <Anweisung>;  
    <Anweisung>;  
}
```



Beispiel

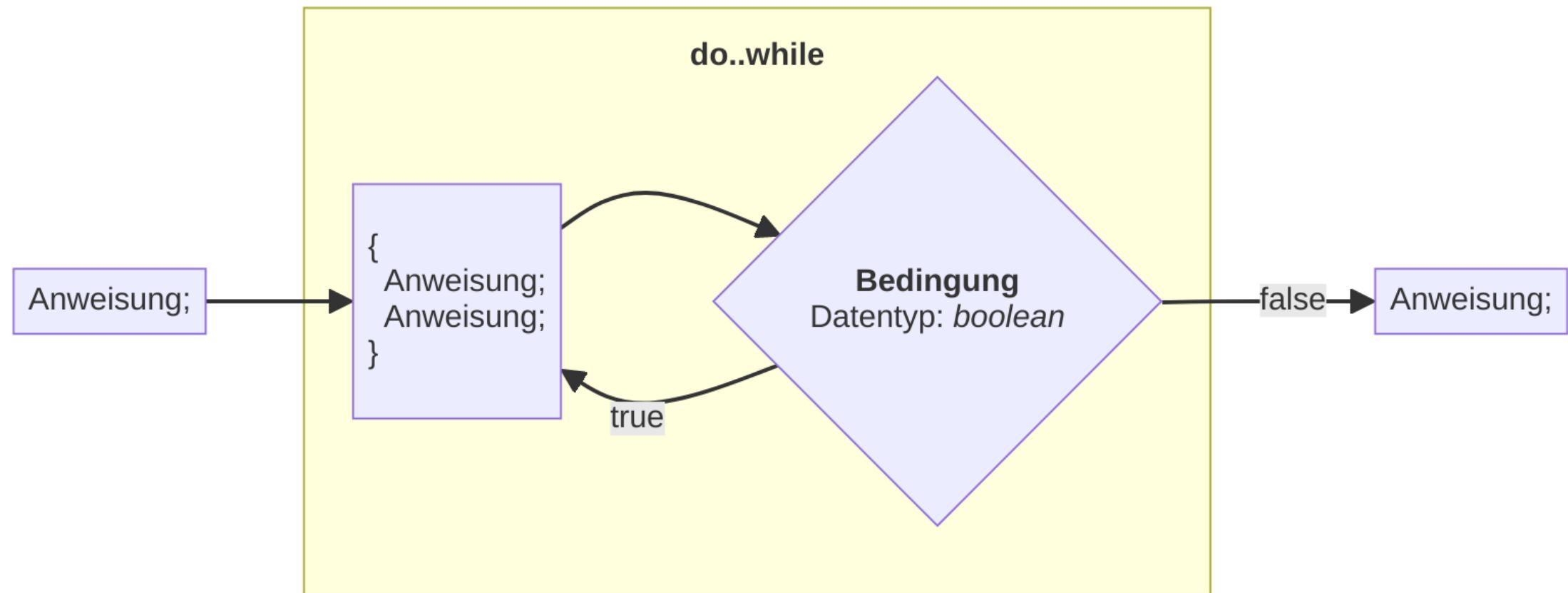
```
int i = 5;  
while (i > 0) {  
    System.out.println("i: " + i);  
    i--;  
}
```

```
// Ausgabe:  
// i: 5  
// i: 4  
// i: 3  
// i: 2  
// i: 1
```

A photograph of a person from the side, wearing a striped shirt, holding a bow and arrow, aiming it towards a blurred archery target in the distance. The background is a dark, out-of-focus green field.

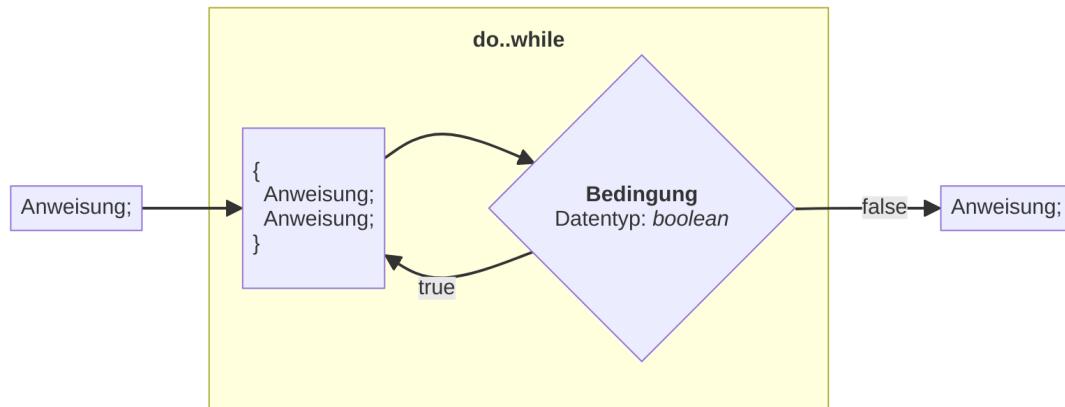
Zuerst Machen
dann prüfen bis ein Status
erreicht wird

do..while - Schleife



do .. while - Schema / Beispiel

```
do {
    <Anweisung>;
} while (<Bedingung>);
```



```
String gedanken = "Kaffee";
String eingabe = "";
do {
    if (!eingabe.equals("")) {
        System.out.println("leider falsch :(");
    }
    System.out.println("was denke ich?: ");
    eingabe = StdInput.readString();
} while (gedanken.equals(einbage));
System.out.println("jaaa");

// Ausgabe:
// Was denke ich?
// > quatsch
// leider falsch :(
// Was denke ich?
// > Kaffee
// jaaa
```

do . . while

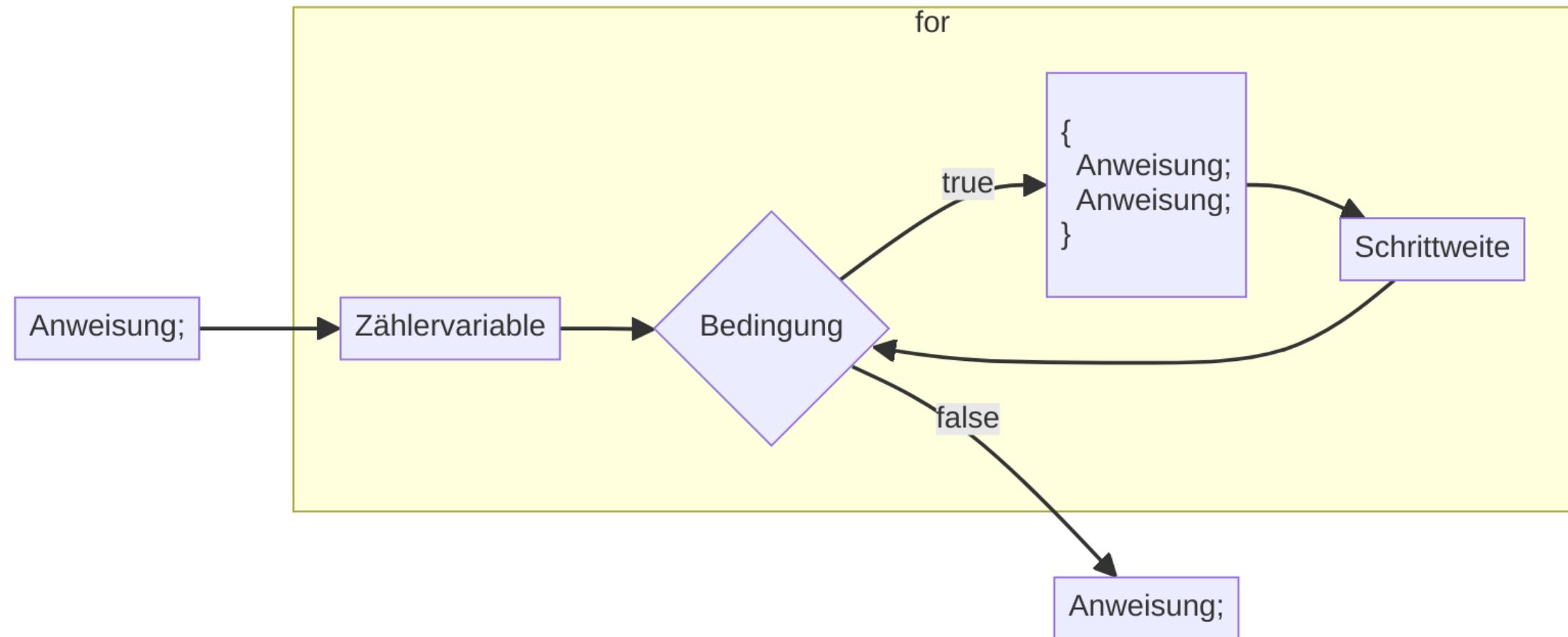
Abfrage und Verifikation von Benutzereingaben



A black and white photograph showing a child's lower body from the waist down. The child is wearing a patterned dress and colorful shoes. They are standing on a chalkboard floor that has been drawn with a hopscotch grid. The grid consists of several large, irregularly shaped rectangles outlined in chalk. Some numbers are visible within the rectangles, such as '1' and '2'. There are also some small, faint shapes like hearts or stars. The chalk is scattered on the ground around the grid.

Eine bekannte Reihe/Liste durchlaufen

for - Schleife

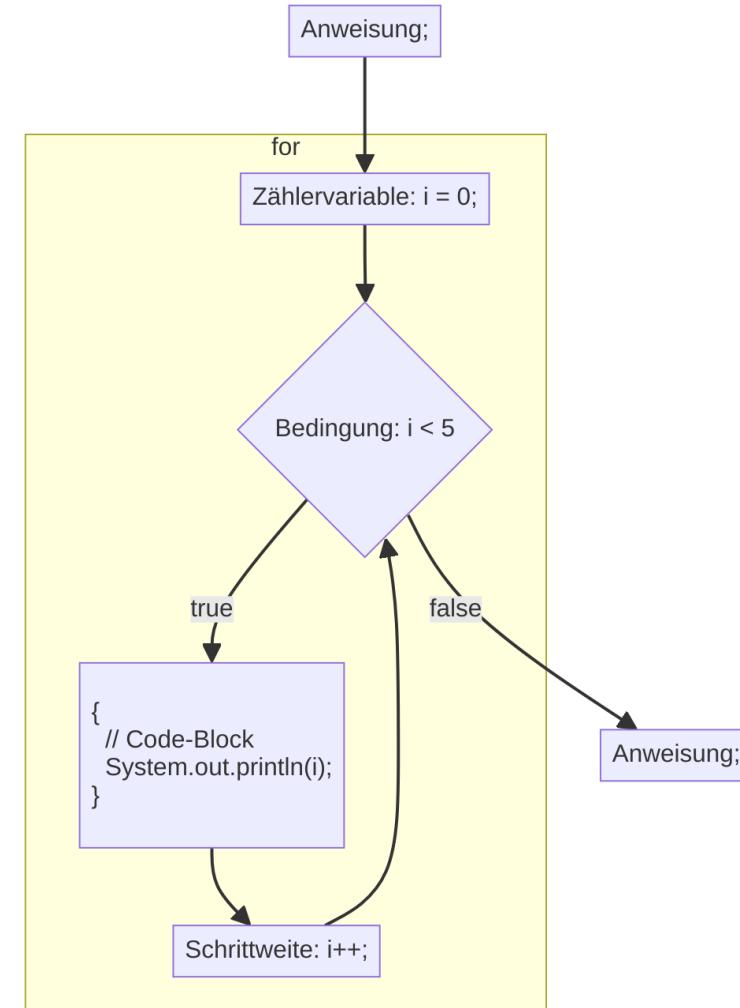


for - Schema / Beispiel

```
for (
    <Zählervariable>;
    <Bedingung>;
    <Schrittweite>
) {
    <Anweisungen, Sequenz>
}
```

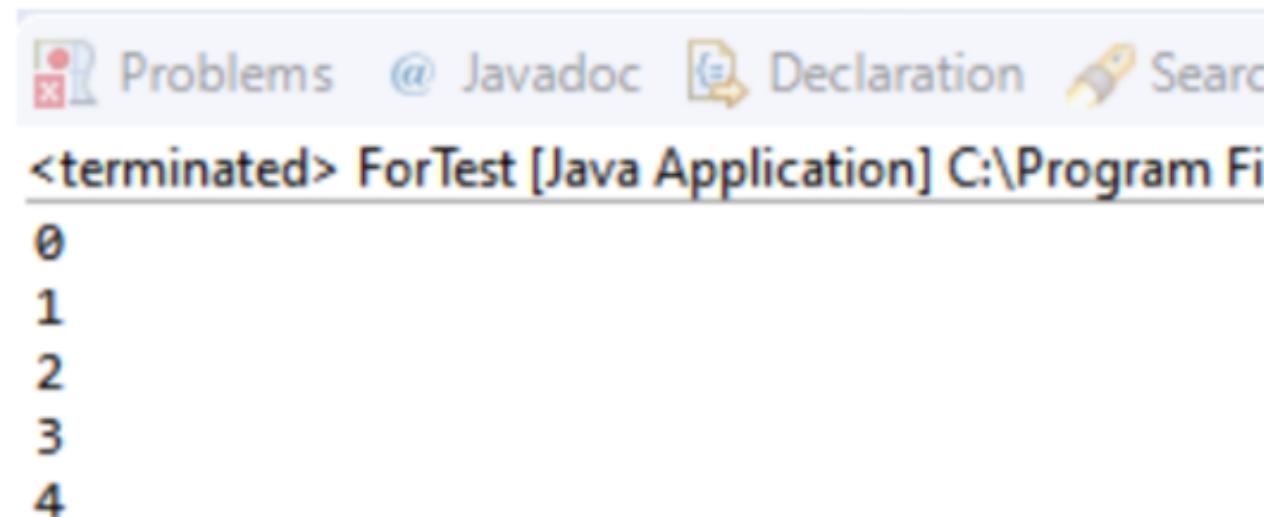
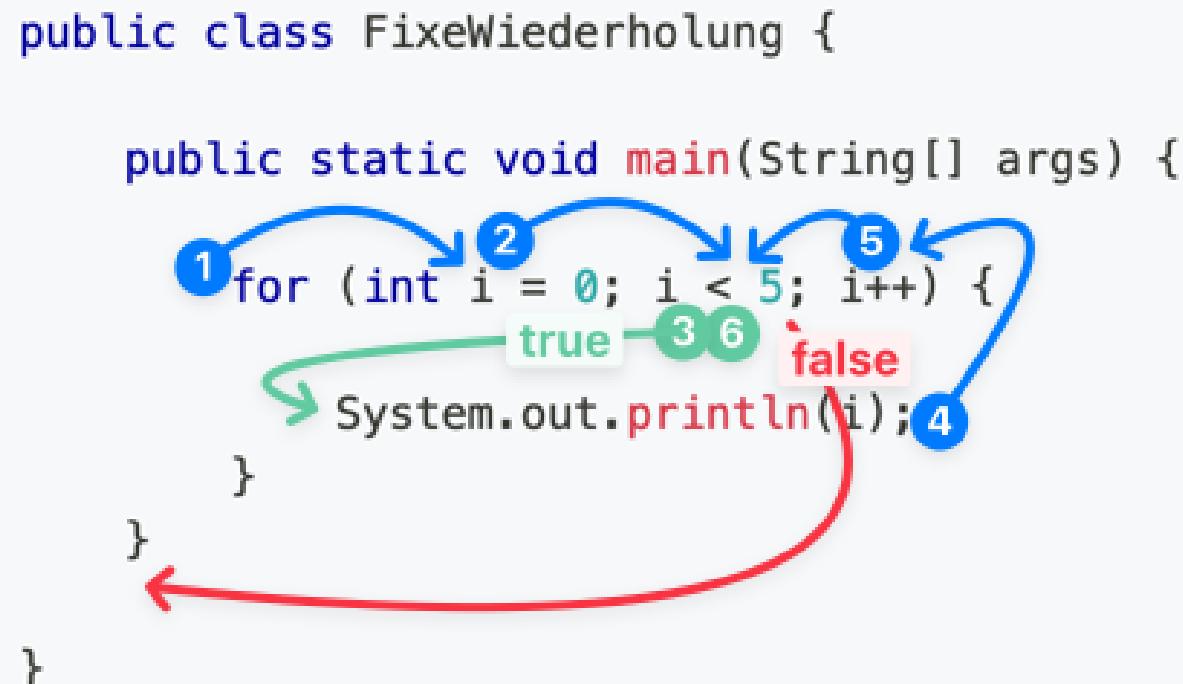
Beispiel:

```
for (int i = 0; i < 5; i++) {
    System.out.println(i);
}
```



for - Ablauf und Ausgabe

```
public class FixeWiederholung {  
  
    public static void main(String[] args) {  
  
        1 for (int i = 0; i < 5; i++) {  
            2 true  
            3 System.out.println(i);  
            4 false  
        }  
    }  
}
```



```
0  
1  
2  
3  
4
```

for vs while für Aufzählungen

for:

```
for (int i = 0; i < 5; i++) {  
    System.out.println(i);  
}
```

- ✓ Variable `i` nur innerhalb der Schlaufe sichtbar
- ✓ kürzer

while:

```
int i = 0;  
while (i < 5) {  
    System.out.println(i);  
    i++;  
}
```

- 😱 Variable `i` wird **ausserhalb der Schleife** initialisiert