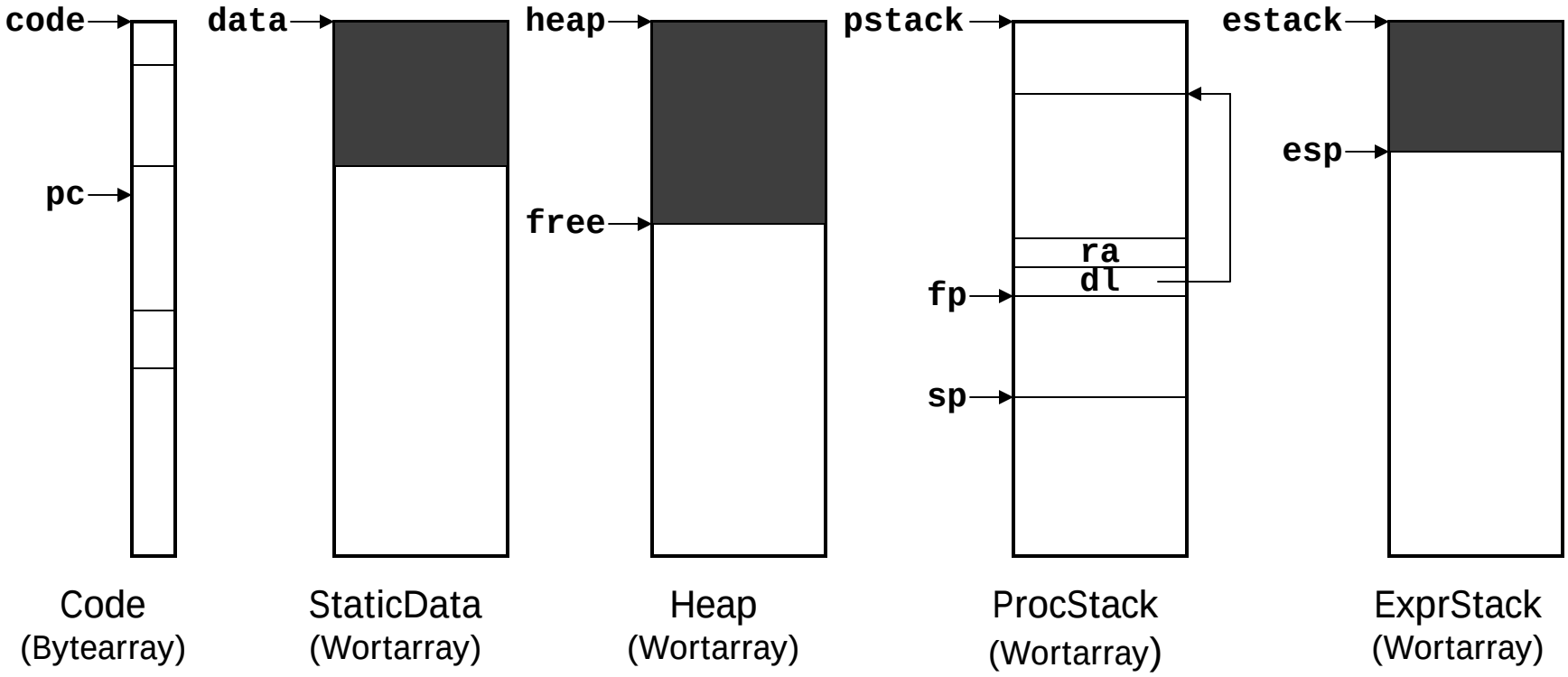
MicroJava VM: Speicher-Layout



Symboltabelle

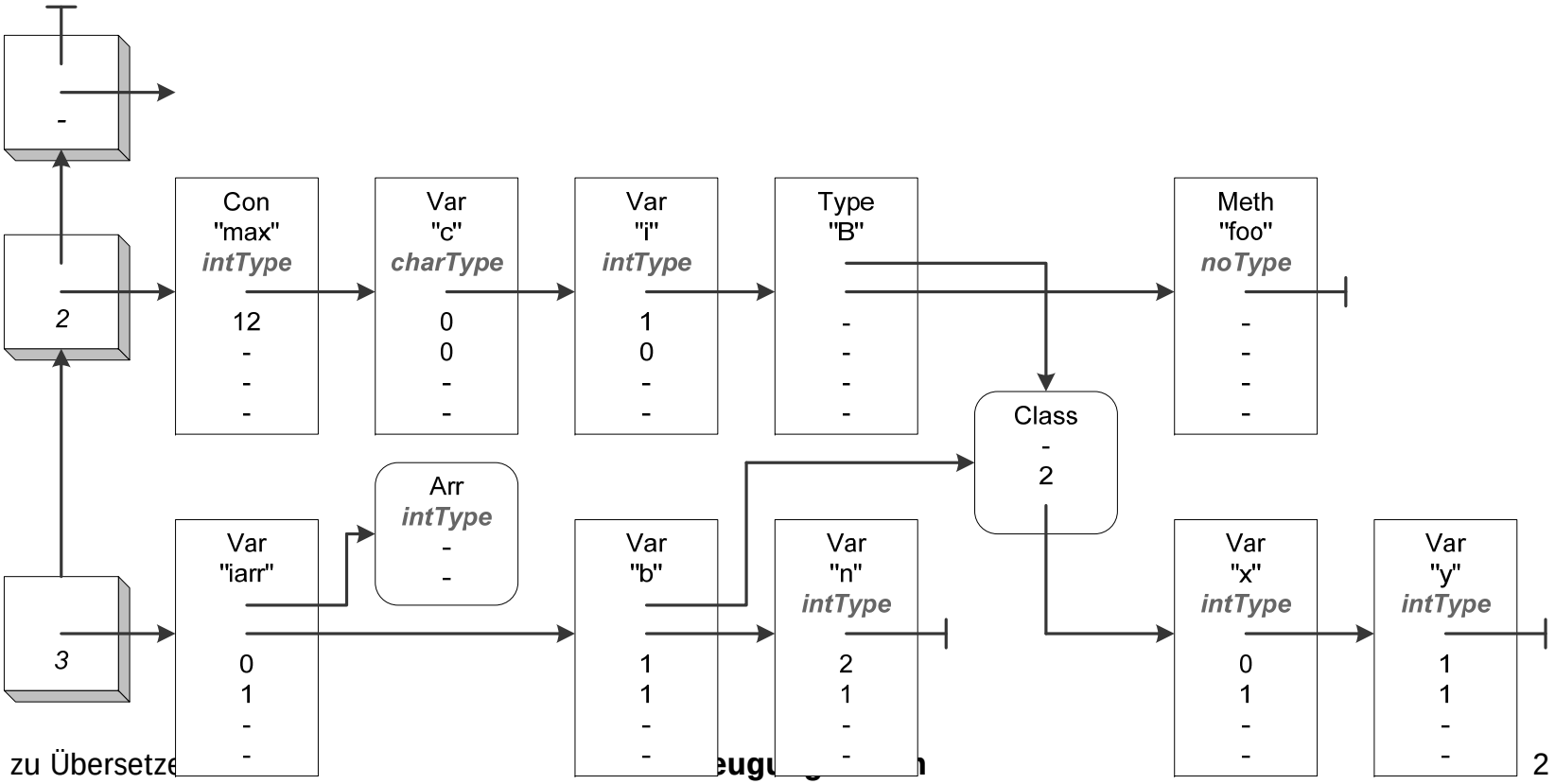
Deklaration: **program A**

final int max = 12; *// Konstante*

char c; int i; *// globale Variablen*

class B { int x, y; } *// innere Klasse mit Feldern*

{ void foo () int[] iarr; B b; int n; {…} }



Bsp 1: **n = 3;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

const_3
store_2

= **2** byte

Bsp 2: **i = 10;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
const   10
putstatic   1
```

= **8** byte

Bsp 3: **n = 3 + i;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
const_3                                    = 6 byte
getstatic   1
add
store_2
```

Bsp 4: **n = 3 + i * max - n;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
const_3                                    = 14 byte
getstatic   1
const   12
mul
add
load_2
sub
store_2
```

Bsp 5: **iarr[5] = 10;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
load_0                                    = 8 byte
const_5
const   10
astore
```

Bsp 6: **b.y = iarr[5] * 3;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
load_1
load_0
const_5
aload
const_3
mul
putfield   1
```

= **9** byte

Bsp 7: **n--;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

inc 2 -1 = **3** byte

Bsp 8: **i--;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
getstatic   1
const_m1
add
putstatic   1
```

= **8** byte

Bsp 9: **b.y--;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

```
load_1
dup
getfield   1
const_m1
add
putfield   1
```

= **10** byte

Bsp 10: **iarr[0]--;**

Deklaration:

```
program A
    final int max = 12;        // Konstante
    char c; int i;             // globale Variablen
    class B { int x, y; }      // innere Klasse mit Feldern
{   void foo ()   int[] iarr; B b; int n;   {...}    }
```

load_0
const_0
dup2
aload
const_m1
add
astore

= **7** byte