the stack sorting algorithm visualizer!

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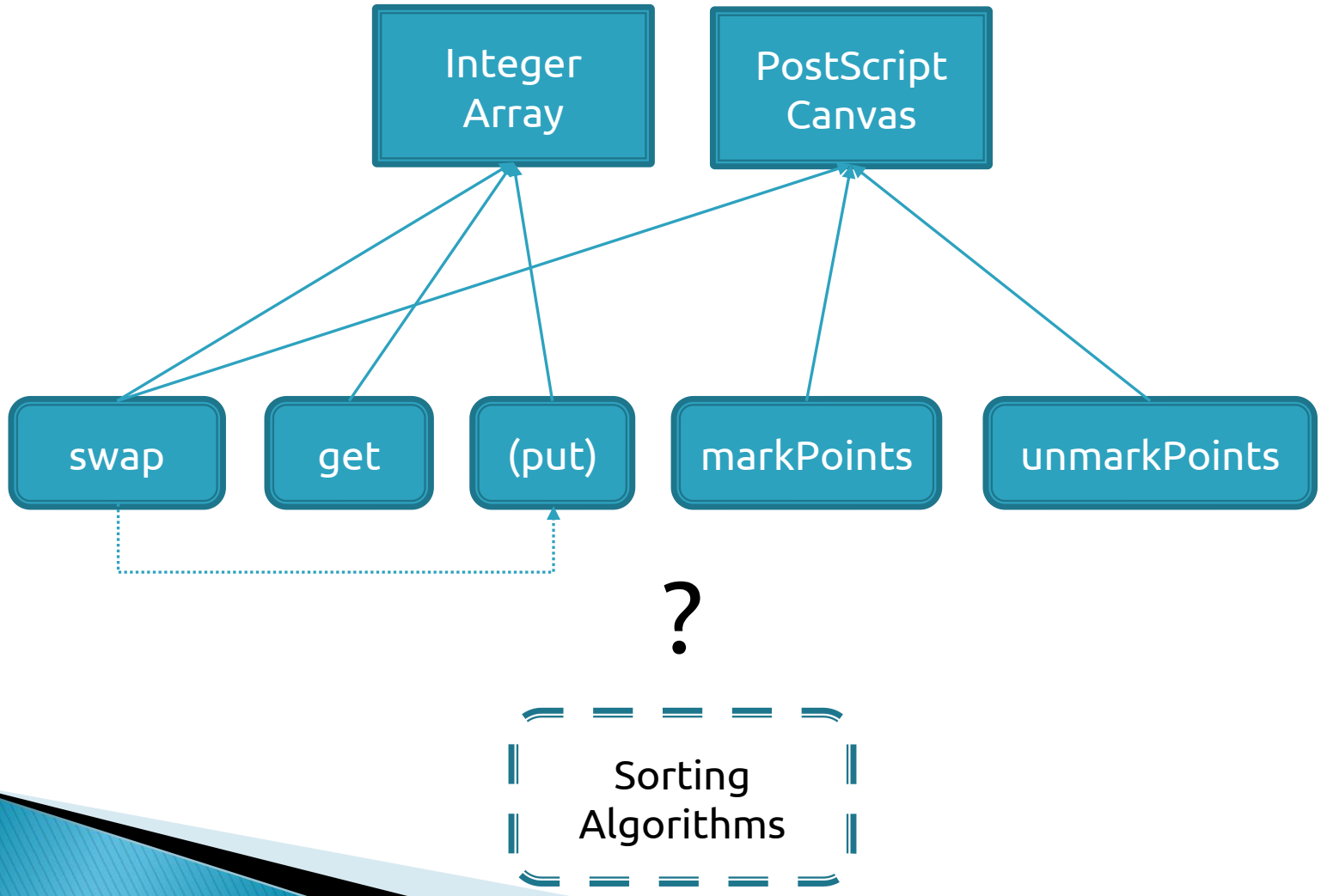
Übersicht

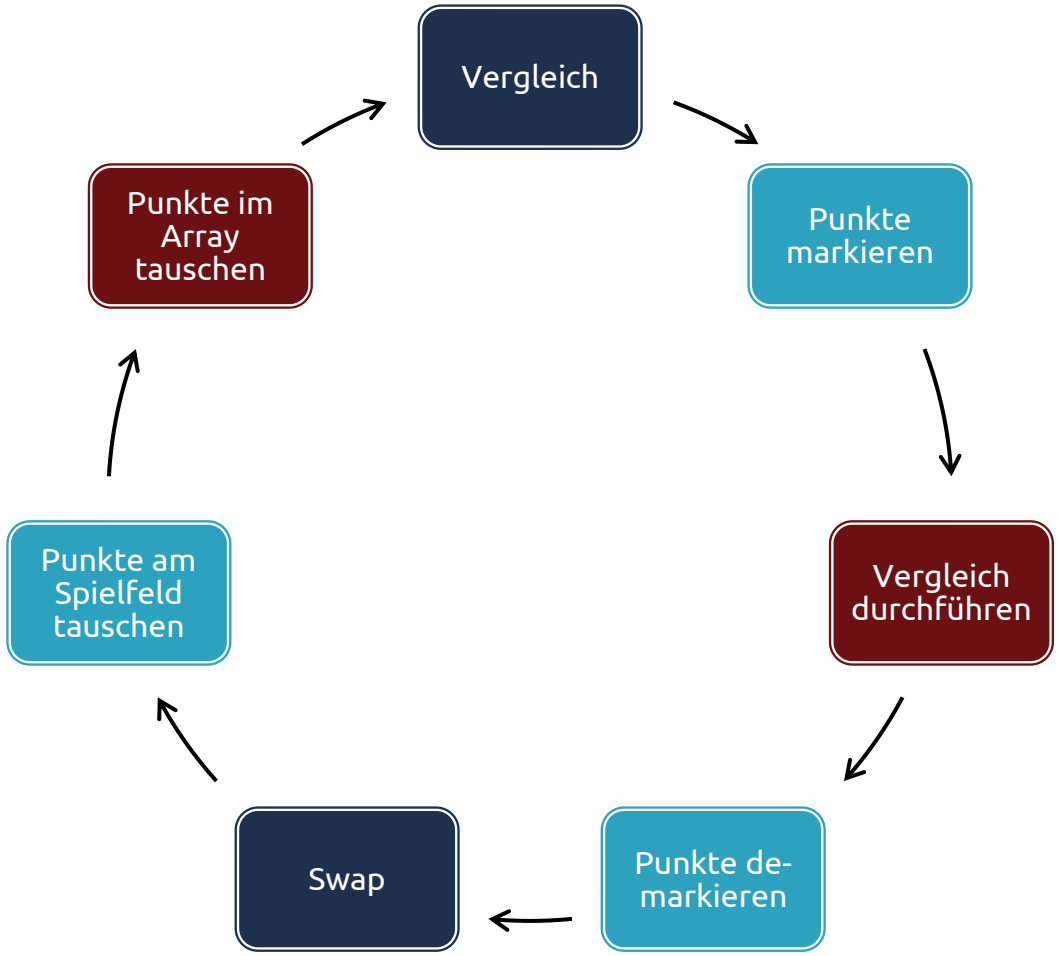
- Architektur
- How-To: Stooge Sort in PostScript
- Vergleich & Metriken
- Eine „kleine“ Vorführung

Architektur 1/2



Architektur 2/2

- Canvas
- Array
- Algorithmus



Stooge Sort in PostScript 1/4

- Einfach, rekursiv, total ineffizient

```
algorithm stoogeSort (i = 0, j = length(L) - 1)
  if L[j] < L[i] then
    L[i] ↔ L[j]
  if (j - i + 1) >= 3 then
    t = (j - i + 1) / 3
    stoogeSort (i, j - t)
    stoogeSort (i + t, j )
    stoogeSort (i, j-t)
```

Stooge Sort in PostScript 2/4

- Erster Schritt: Skelett festlegen

```
/stoogeSort
{
  /ss
  {
    {
    } if
    {
      ss
      ss
      ss
    } if
  } bind def
  0 fsize      % Stack: i j
  ss           % Stack:
} bind def
```

Stooge Sort in Postscript 3/4

- Code und Debug-Operationen einfügen

```
                                (ss, out, 0, Stack: i j) pp
                                2dup
                                (ss, out, 1, Stack: i j i j) pp
                                ppop % Mark
                                (ss, out, 2, Stack: i j) pp
   L[j]   L[i] ........         2dup 2 { exch field exch get+ } repeat
                                (ss, out, 3, Stack: i j f[i] f[j]) pp
        < ............          gt 3 1 roll 2dup ppop rot % Unmark
                                (ss, out, 4, Stack: i j res) pp
if              then ...        {
                                  (ss, if1, 0, Stack: i j) pp
  L[i] ↔ L[j] .........           2dup swap
                                  (ss, if1, 1, Stack: i j) pp
                                } if
                                ...
```

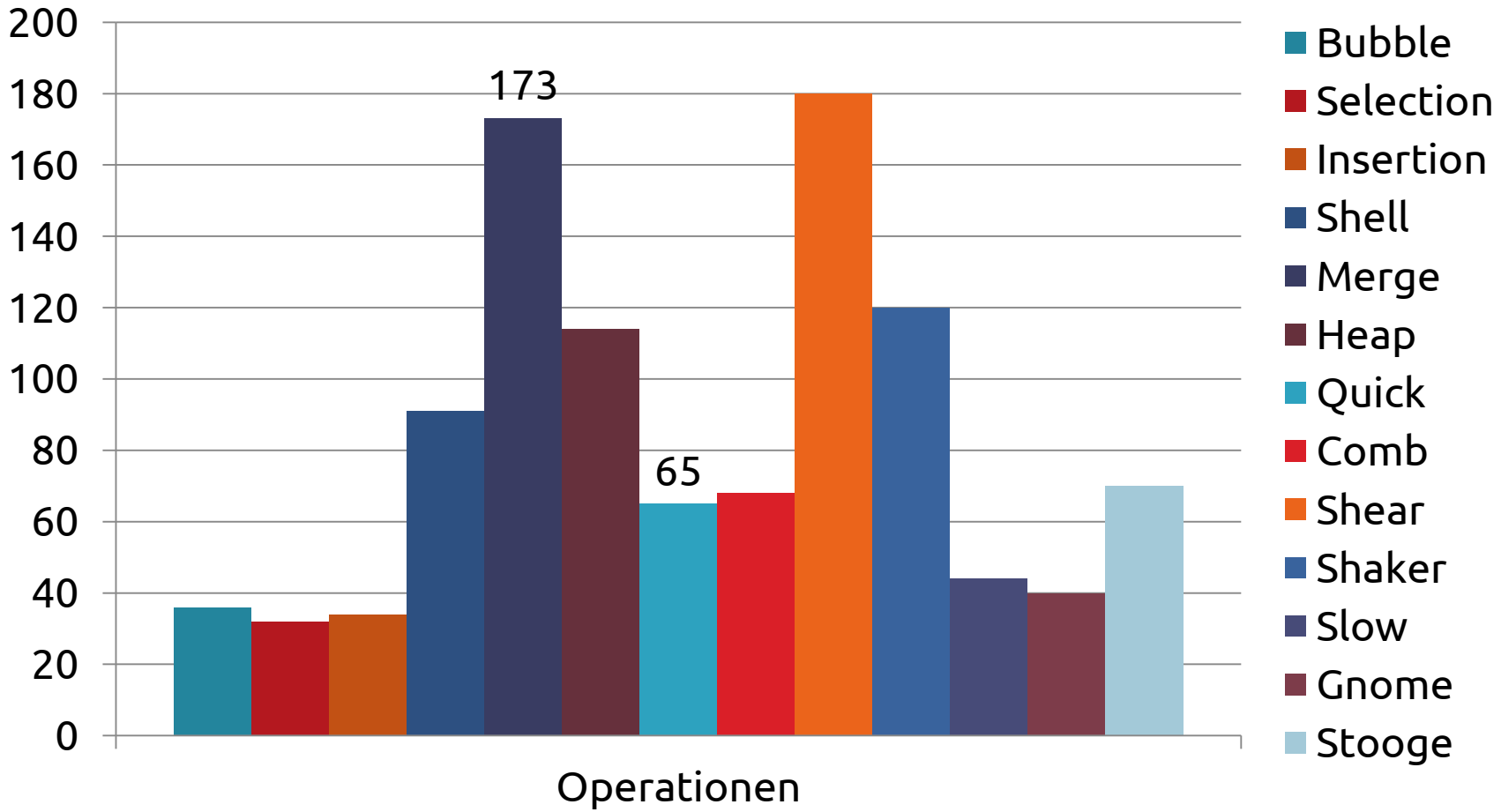
Stooge Sort in PostScript 4/4

- Die Funktion pp:

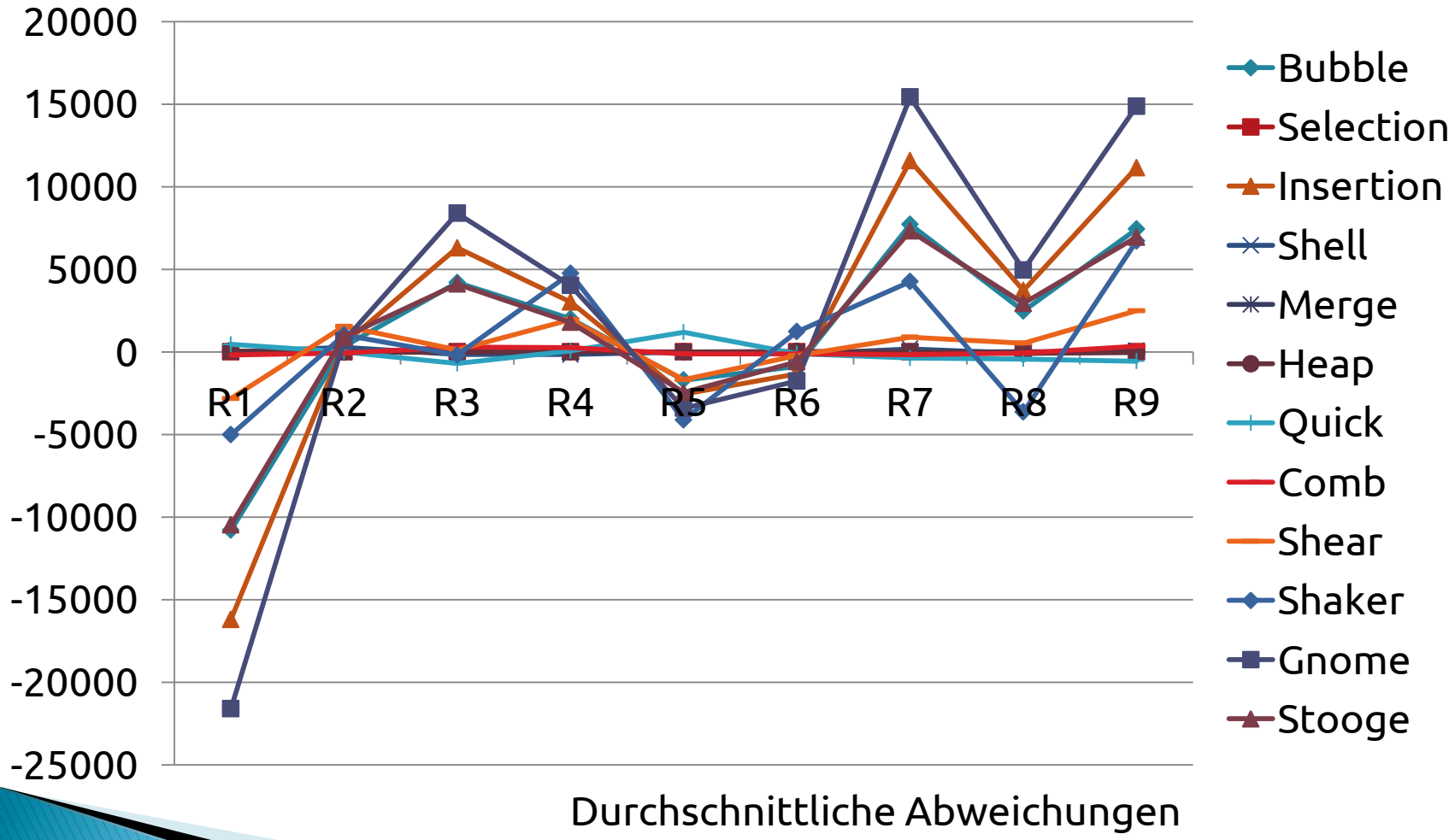
```
/pp { print (\n) print field pstack pop flush pause } def
/pp { pop } def
```

- Wie sieht das live aus?

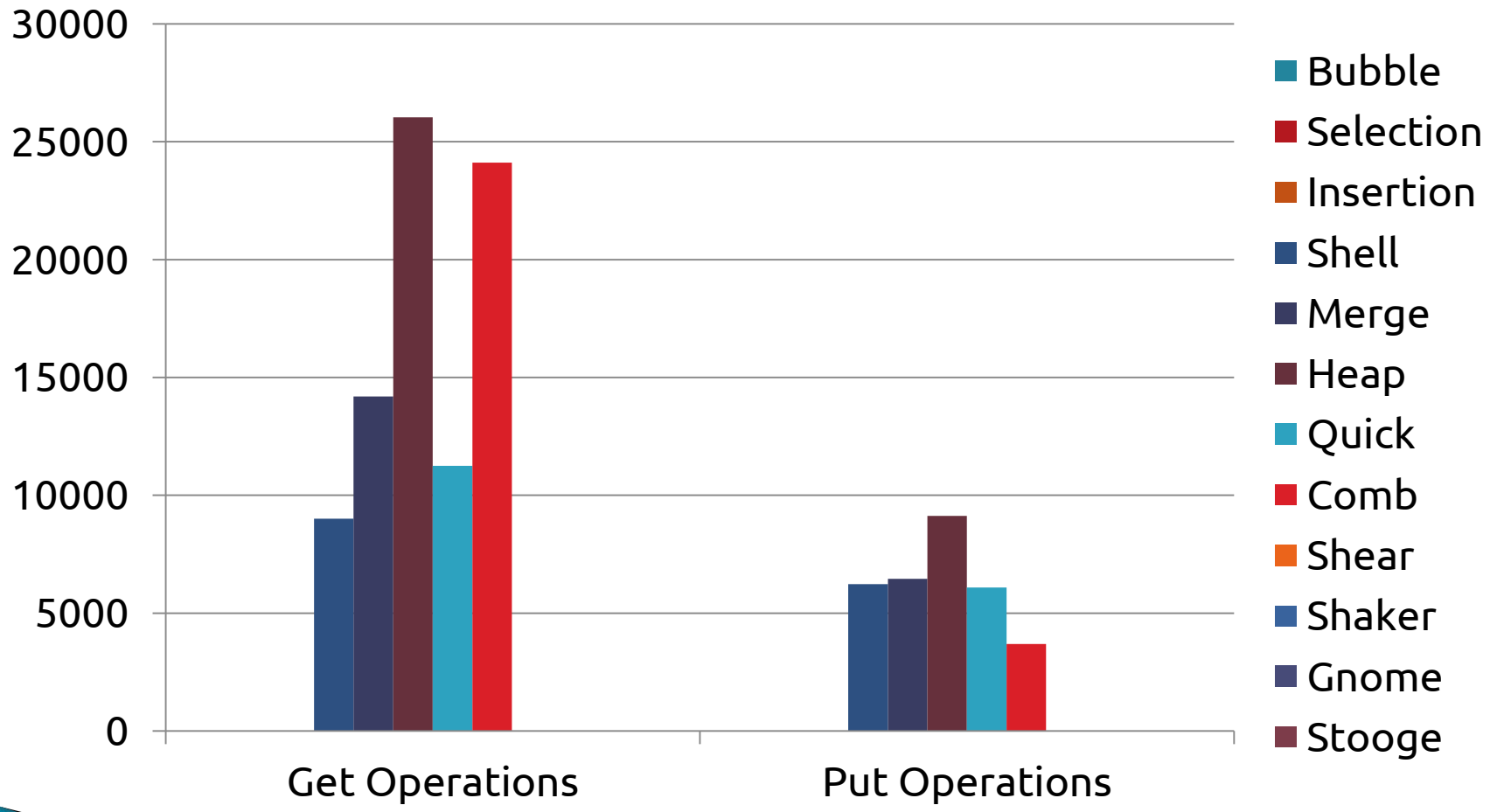
Vergleich & Metriken 1/3



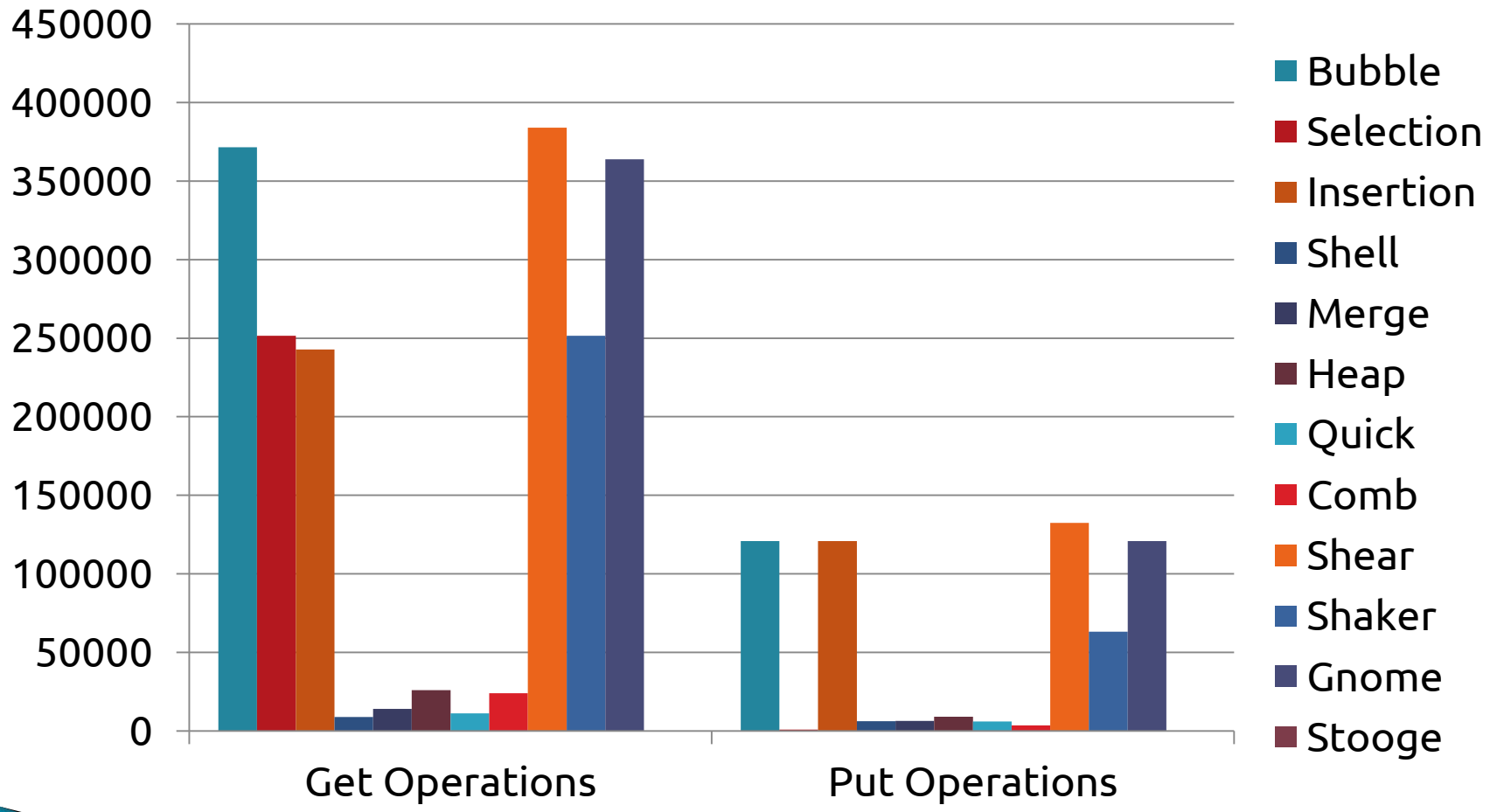
Vergleich & Metriken 2/3



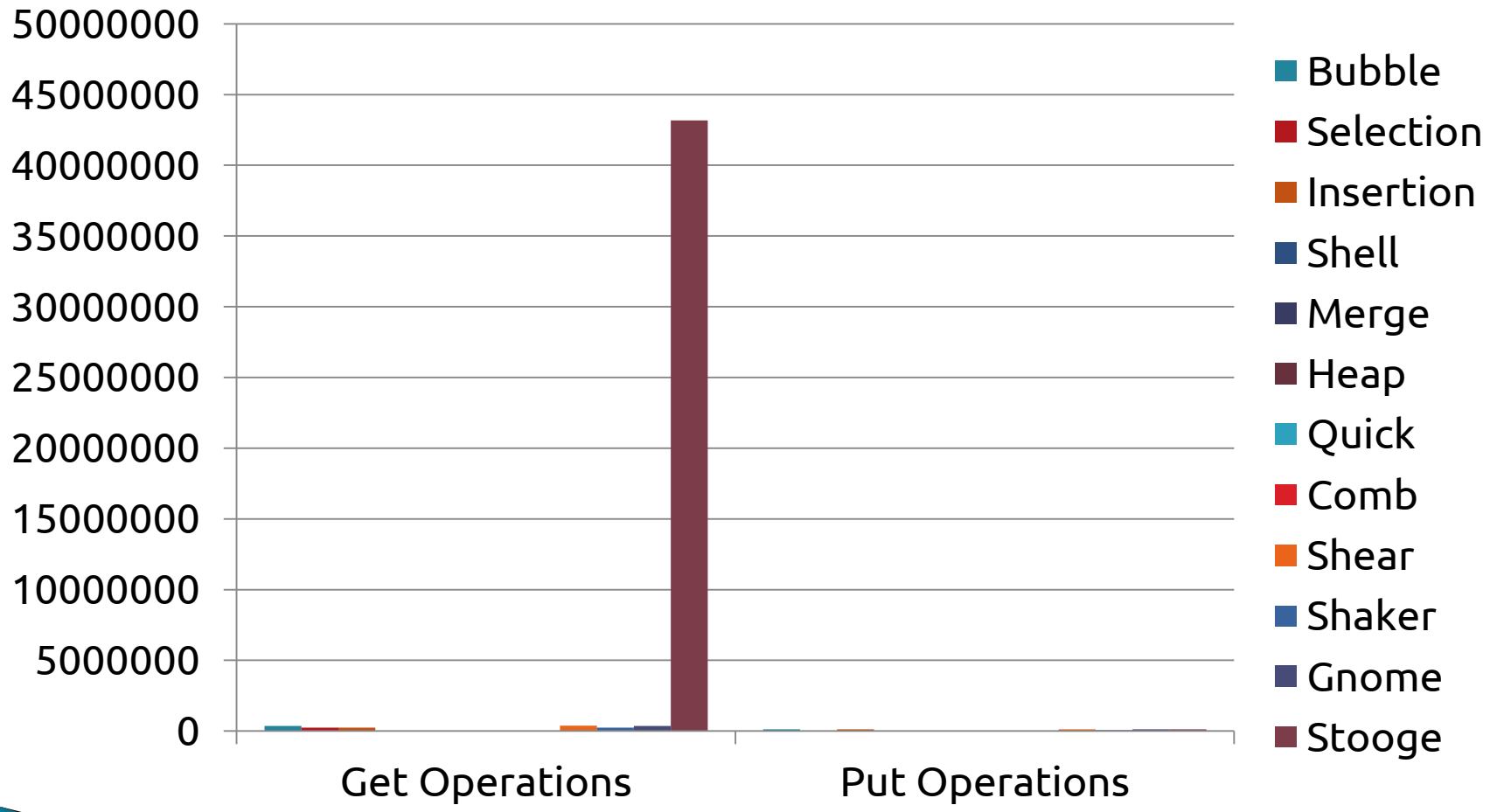
Vergleich & Metriken 3/3



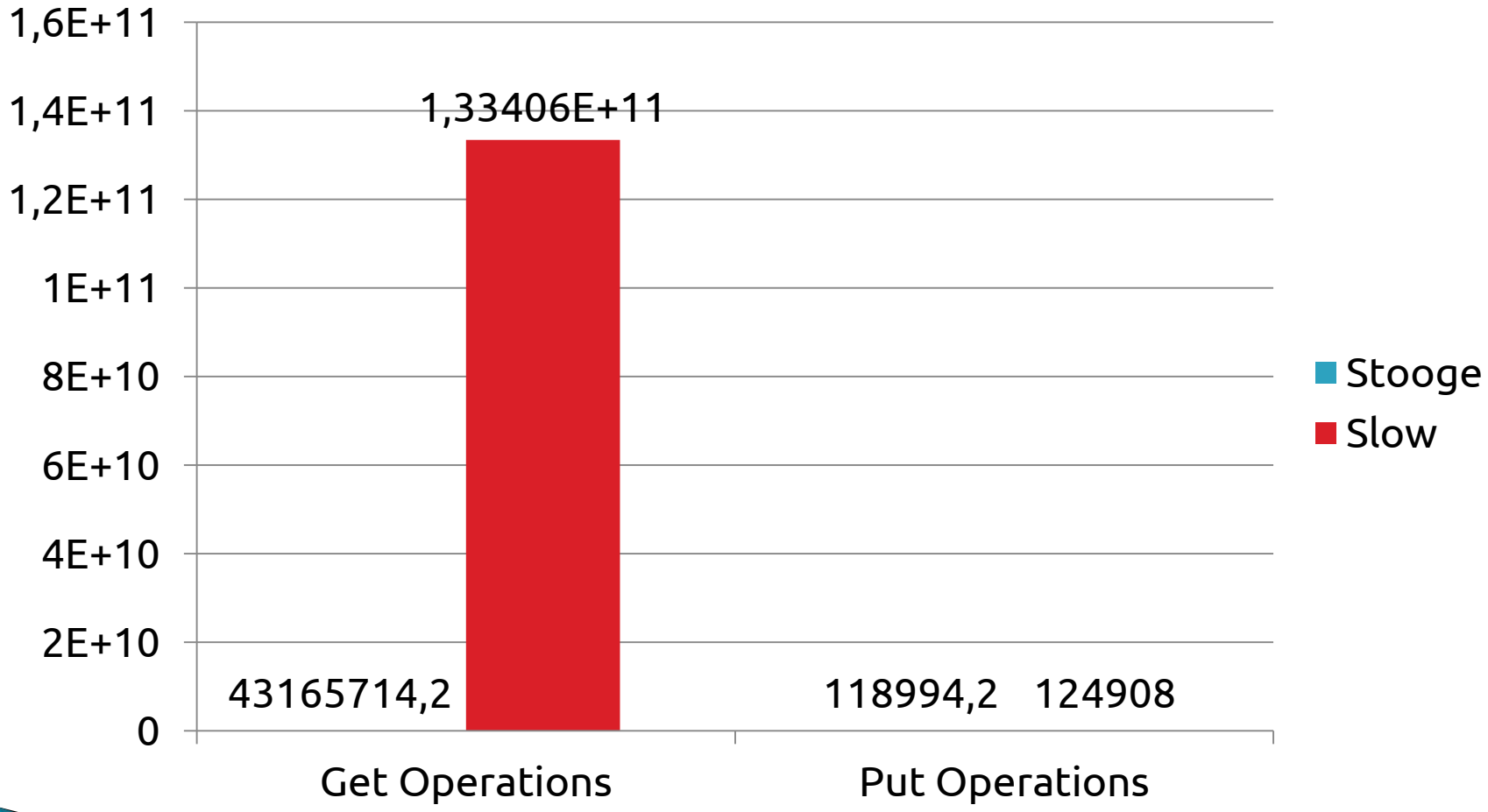
Vergleich & Metriken 3/3



Vergleich & Metriken 3/3



Vergleich und Metriken 3/3



Vorführung