

Introduktion til Programmering og Problemløsning (PoP)

Funktionssammensætning og
betinget udførsel af kode

Jon Sparring
Department of Computer Science
2022/09/12

UNIVERSITY OF COPENHAGEN



Funktionskomposition ($g \circ f$)

Eksempel: $h(x) = \ln x^2$

```
let h x = log (x*x) // naturlig logaritme
```

Individuelle funktioner

```
let f x = x*x
```

```
let g x = log x
```

Midlertidige værdier

```
let y = f 3.0
```

```
let z = g y
```

Indirekte komposition

```
Let h x = g (f x)
```

```
let z = h 3.0
```

Venstre piping

```
let h x = x |> f |> g
```

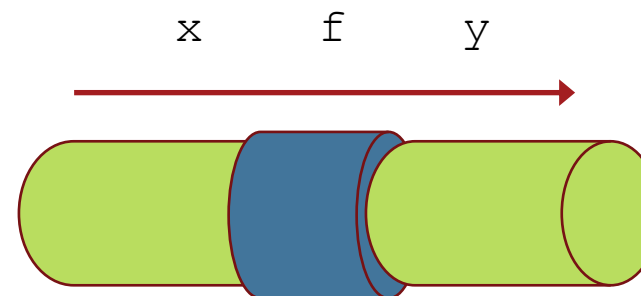
```
let z = h 3.0
```

Komposition

```
let h = f >> g
```

```
let z = h 3.0
```

Piping = rør og sammenføjninger



Avanceret funktionsgymnastik

Match-with guards og if-then-else

Eksempel: 1.-3. plads er en podieplads

```
let onPodium place =  
  match place with  
    1 -> true  
    | 2 -> true  
    | 3 -> true  
    | _ -> false
```

Kortform

```
let onPodium place =  
  match place with  
    1 | 2 | 3 -> true  
    | _ -> false
```

Guard

```
let onPodium place =  
  match place with  
    p when (0 < p) && (p <= 3) -> true  
    | _ -> false
```

if-then-else

```
let onPodium place =  
  if place = 1 then true  
  elif place = 2 then true  
  elif place = 3 then true  
  else false
```

Kortform (guard)

```
let onPodium place =  
  if (0 < place) && (place <= 3) then true  
  else false
```

Resumé

I denne video hørte du om:

- Funktionssammensætning
- Match-with og guards
- If-then-else udtryk