

Introduktion til Programmering og Problemløsning (PoP)

Jon Sparring
Department of Computer Science
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UNIVERSITY OF COPENHAGEN



Moduler og biblioteker

Program

```
let fib n =  
  if n < 1 then 0  
  else  
    let mutable prev = (0, 1)  
    for i = 2 to n do  
      prev <- (snd prev, (fst prev) + (snd prev))  
    snd prev
```

```
let N = 5  
printfn "%d: %d" N (fib N)
```

Signatur (.fsi)

```
module Library  
  
/// Calculate the n'th Fibonacci number  
val fib : int -> int
```

Application (.fsx)

```
let N = 5  
printfn "%d: %d" N (Library.fib N)
```

Implementation (.fs)

```
module Library  
  
let fib n =  
  if n < 1 then 0  
  else  
    let mutable prev = (0, 1)  
    for i = 2 to n do  
      prev <- (snd prev, (fst prev) + (snd prev))  
    snd prev
```

```
$ fsharp -a library.fsi library.fs  
$ fsharp -r library.dll application.fsx
```


Biblioteksvarianter

Åbning

open Library

```
let N = 5  
printfn "%d: %d" N (fib N)
```

Pas på namespace
pollution




Filsuffikser

- .fsx – scriptfil
- .fsscript – scriptfil
- .fs – implementationsfil
- .fsi – signaturfil
- .dll – oversat bibliotek
- .exe – oversat og linket program

Uden implementationsfil

```
$ fsharp -a library.fs  
$ fsharp -r library.dll application.fsx
```

Sammenblanding
af signatur og
implementation



Implementationsfil giver adgangskontrol

empty.fsi

```
module Library  
// This file is intentionally empty
```

Oversættelse

```
$ fsharp -a empty.fsi library.fs  
$ fsharp -r library.dll application.fsx
```

.../applicationOpen.fsx(4,21): error FS0039: The value or constructor 'fib' is not defined.

Resumé

I denne video hørte du om:

- Opdeling af kode i biblioteker og applikationer
- Signatur og implementationsfiler
- Namespace pollution