Introduktion til Programmering og Problemløsning (PoP)

Håndkøring af recursive funktioner

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Håndkøring (tracing)

function.fsx

```
1 let rec sum (n: int) : int =
2  if n = 0 then 0
3  else n + sum (n - 1);;
4
5 let result = sum 2
6 printfn "%A" result
```

Trin	Linje	Miljø	Bindinger osv.
1	1	E0	sum = ((n), body, ())
2	5	E0	result = sum 2?
3	3	E1	((n=2), body, ())
4	2	E1	n = 0 = false
5	3	E1	2 + sum (n - 1) = ?
6	3	E2	((), n - 1, (n=2))
7	3	E2	return = 1
8	3	E1	2 + sum 1 = ?
9	3	E1	sum 1 = ?
10	3	E2′	((n=1), body, ())
11	2	E2′	n = 0 = false
12	3	E2′	1 + sum (n - 1) = ?
13	3	E3	((), n - 1, (n=1))
14	3	E3	return = 0
15	3	E2′	1 + sum 0 = ?
16	3	E2′	sum 0 = ?
17	3	E3′	((n=0), body, ())
18	2	E3′	n = 0 = true
19	2	E3′	return 0
20	3	E2′	sum 0 = 0
21	3	E2′	1 + 0 = 1
22	3	E2′	return = 1
23	3	E1	sum 1 = 1
24	3	E1	2 + 1 = 3
25	3	E1	return = 3
26	5	E0	result = 3
27	6	E0	output = “3”

Resumé

- Håndkøring af rekursive funktioner