MACQUARIE
University

WCOM125/COMP125

Fundamentals of Computer Science

Recursion

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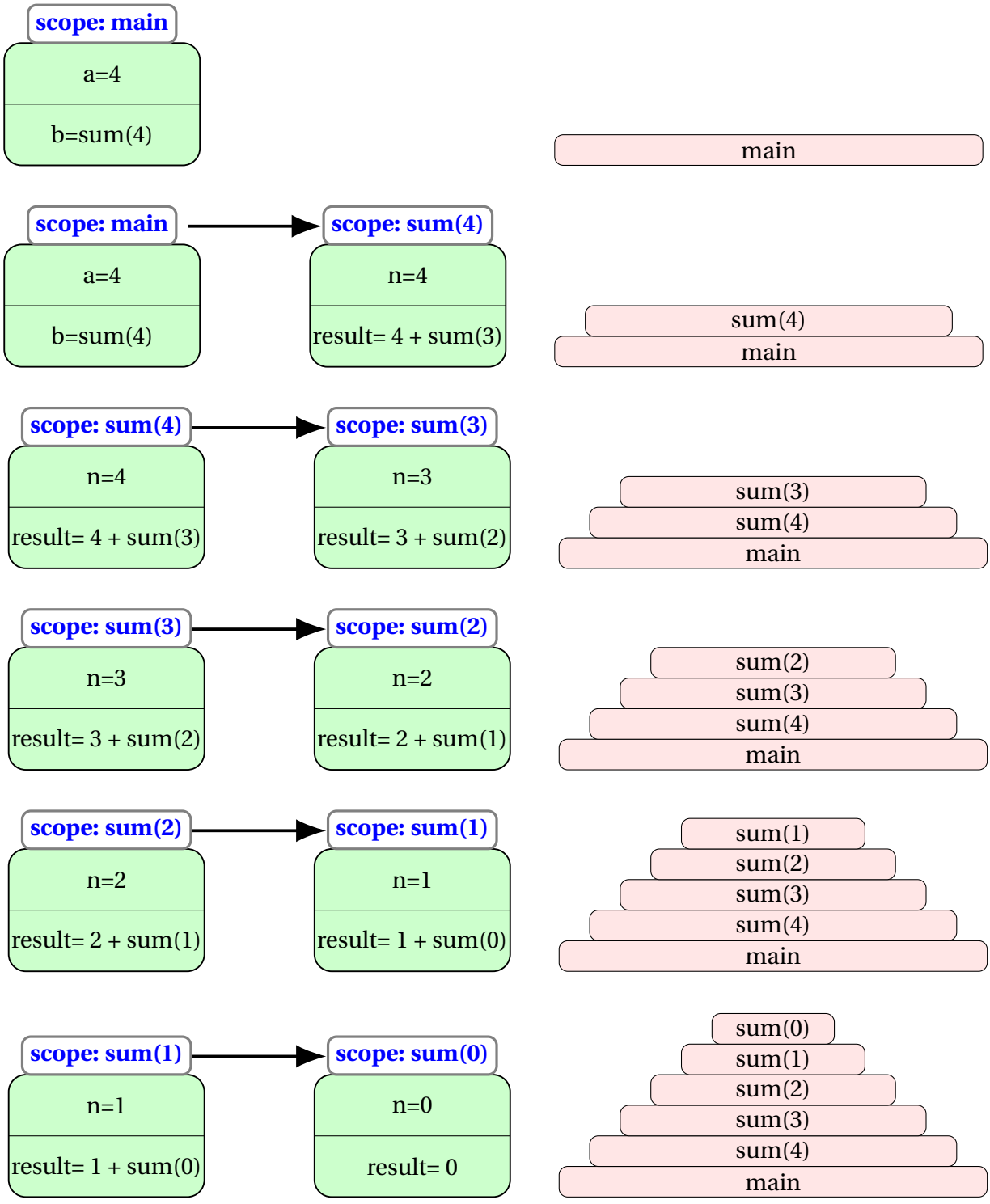
Contents

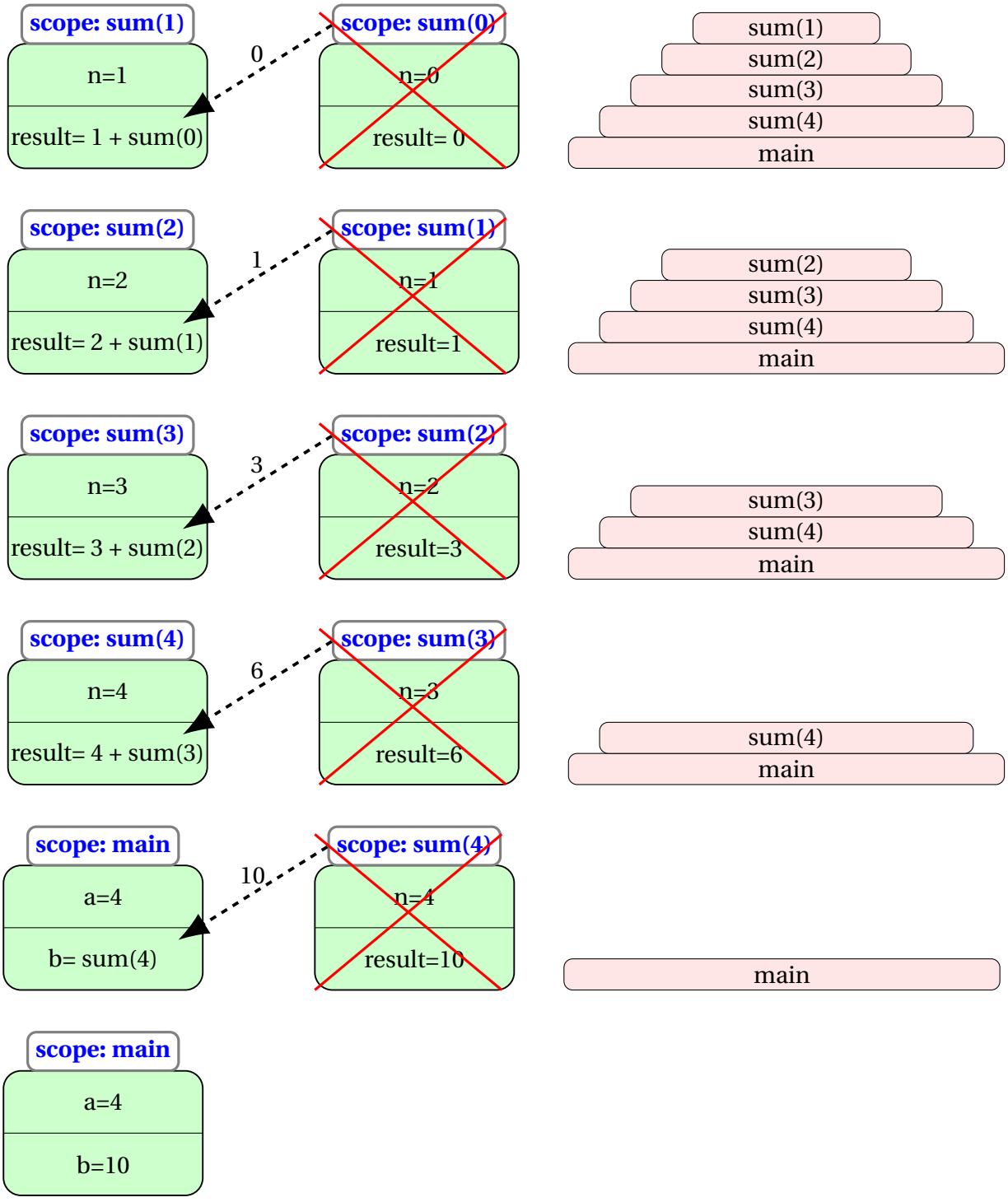
1 Sample solutions for exercises 7

List of exercises

```java
public class Client {
	public static void main(String[] args) {
		int a = 4;
		int b = sum(a);
	}

	public static int sum(int n) {
		int result = n + sum(n-1);
		return result;
	}
}
```


scope: main
a=4
b=sum(4)
main
scope: main
a=4
b=sum(4)
scope: sum(4)
n=4
result= 4 + sum(3)
sum(4)
main
scope: sum(4)
n=4
result= 4 + sum(3)
scope: sum(3)
n=3
result= 3 + sum(2)
sum(3)
sum(4)
main
scope: sum(3)
n=3
result= 3 + sum(2)
scope: sum(2)
n=2
result= 2 + sum(1)
sum(2)
sum(3)
sum(4)
main
scope: sum(2)
n=2
result= 2 + sum(1)
scope: sum(1)
n=1
result= 1 + sum(0)
sum(1)
sum(2)
sum(3)
sum(4)
main
scope: sum(1)
n=1
result= 1 + sum(0)
scope: sum(0)
n=0
result= 0
sum(0)
sum(1)
sum(2)
sum(3)
sum(4)
main


scope: sum(1)
n=1
result= 1 + sum(0)
0
scope: sum(0)
n=0
result= 0
sum(1)
sum(2)
sum(3)
sum(4)
main
scope: sum(2)
n=2
result= 2 + sum(1)
1
scope: sum(1)
n=1
result=1
sum(2)
sum(3)
sum(4)
main
scope: sum(3)
n=3
result= 3 + sum(2)
3
scope: sum(2)
n=2
result=3
sum(3)
sum(4)
main
scope: sum(4)
n=4
result= 4 + sum(3)
6
scope: sum(3)
n=3
result=6
sum(4)
main
scope: main
a=4
b= sum(4)
10
scope: sum(4)
n=4
result=10
main
scope: main
a=4
b=10

Section 1.

Sample solutions for exercises