

Parallel Programming 0024

Recitation Week 8

Spring Semester 2010

Today's program

Assignment 7

Assignment 8

Assignment 7

Discuss sample solution

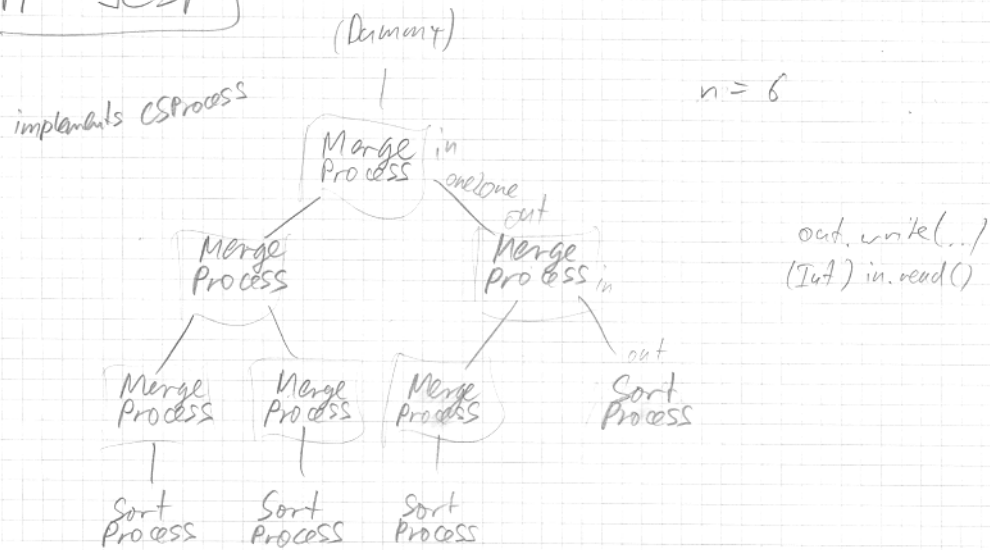
Assignment 8

Mergesort with JCSP

Dining philosophers with JCSP

PP JCSP

PP 2010 09 28



```

Array.sort(int[])
CSProcess[] allProcesses
Parallel parallel = new Parallel(allProcesses)
parallel.run()

```

```

Merge
Guard[] guards = {prev0, prev1}
Alternative alt = new Alternative(guards)

```

```

loop
switch (alt.priSelect()) {
case 0: value = (Integer) prev0.read()
...
break;
case 1: ... prev1.read()

```

zuerst Länge senden

```

T[] list.toArray(new T[list.size()]);

```

Semaphores

Special Integer variable w/2 atomic operations

- **P()** (*Passeren, wait/up*)
- **V()** (*Vrijgeven/Verhogen, signal/down*)

Map into JCSP by defining a semaphore process

Semaphores in JCSP

Semaphore CSProcess

Two channels for P, V

Two + Two channels

P – request/confirm

V – request/confirm

Dining philosophers

Strategies to avoid deadlock

SecurityGuard – limits entry to dining hall

Asymmetric philosophers

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