Design and Implementation of Concurrent C0

Max Willsey
Advisor: Frank Pfenning

Carnegie Mellon University
School of Computer Science
Senior Honors Thesis

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CC0 in 1 Sentence

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  send($c, x%2==0);
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Client:

```
protocol $c = even();
send($c, 4);
assert(recv($c));
wait($c);
```

CC0 in 1 Sentence

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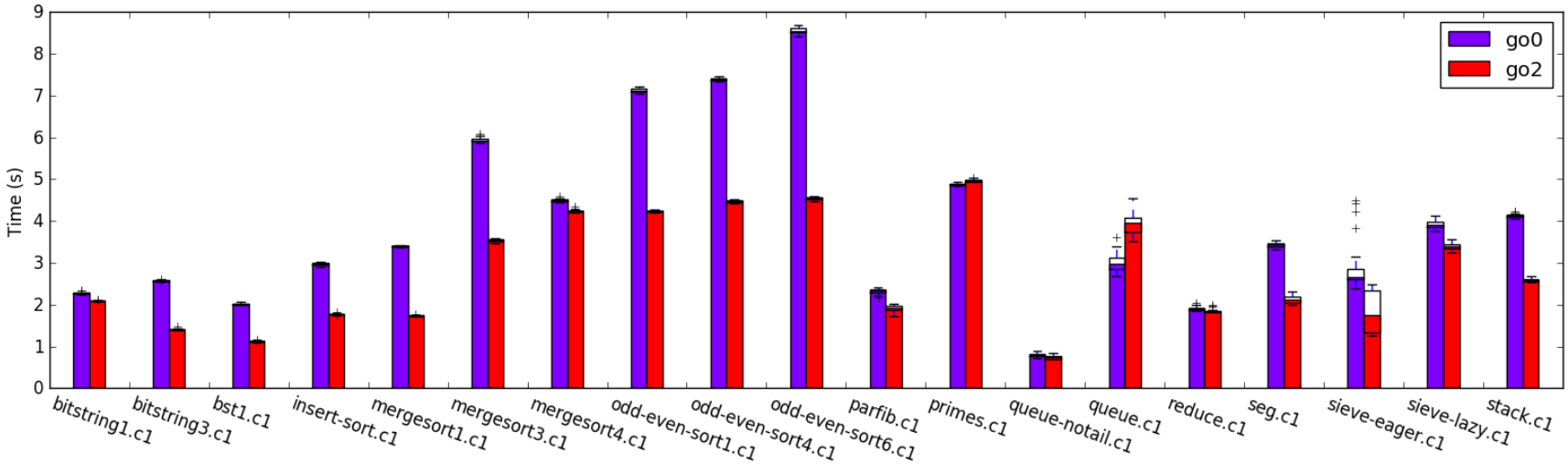
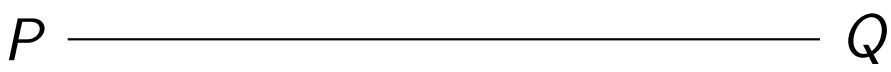
1.38× faster



Contributions

Synchronization Points

Communication in CC0 is asynchronous, but we know the direction of communication, so we only need one buffer.

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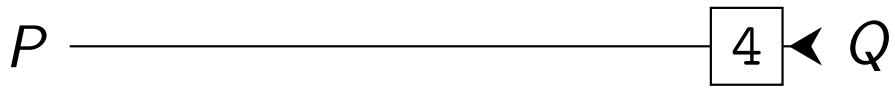


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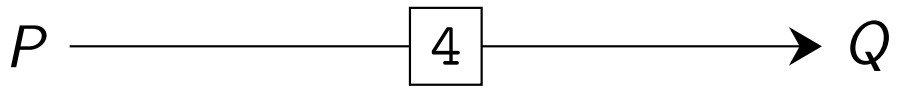


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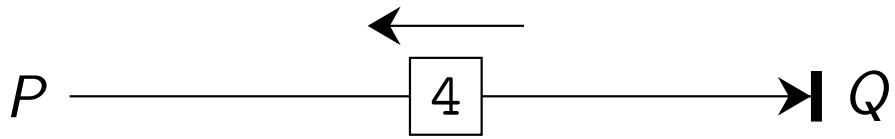


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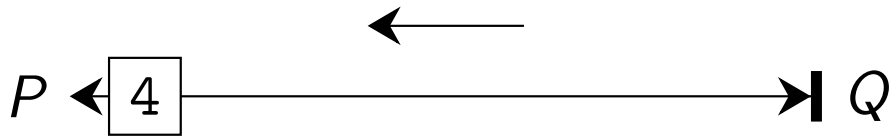


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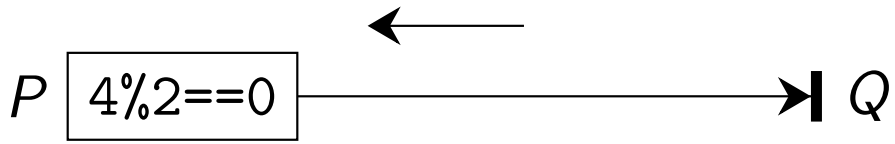


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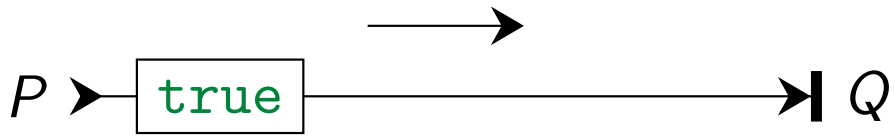


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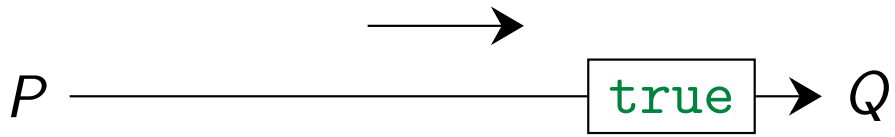


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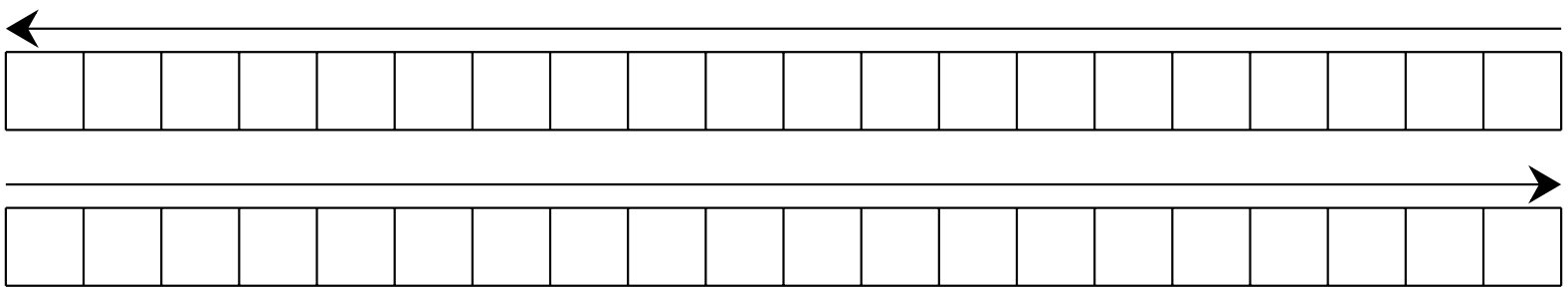

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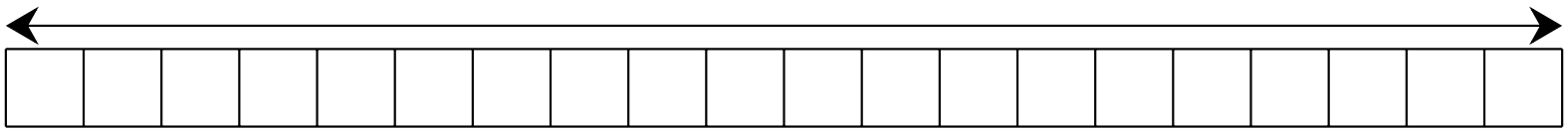

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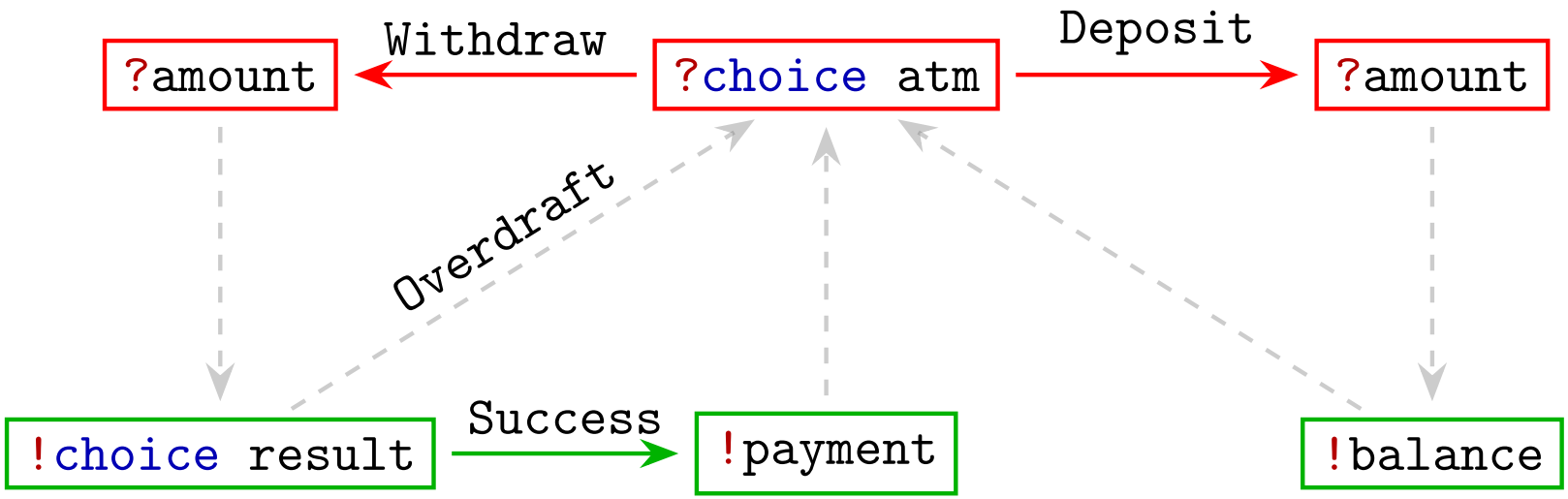

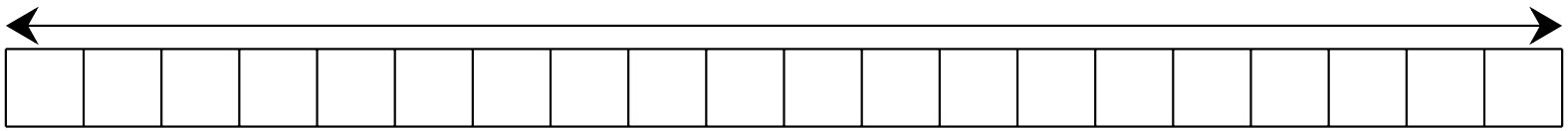

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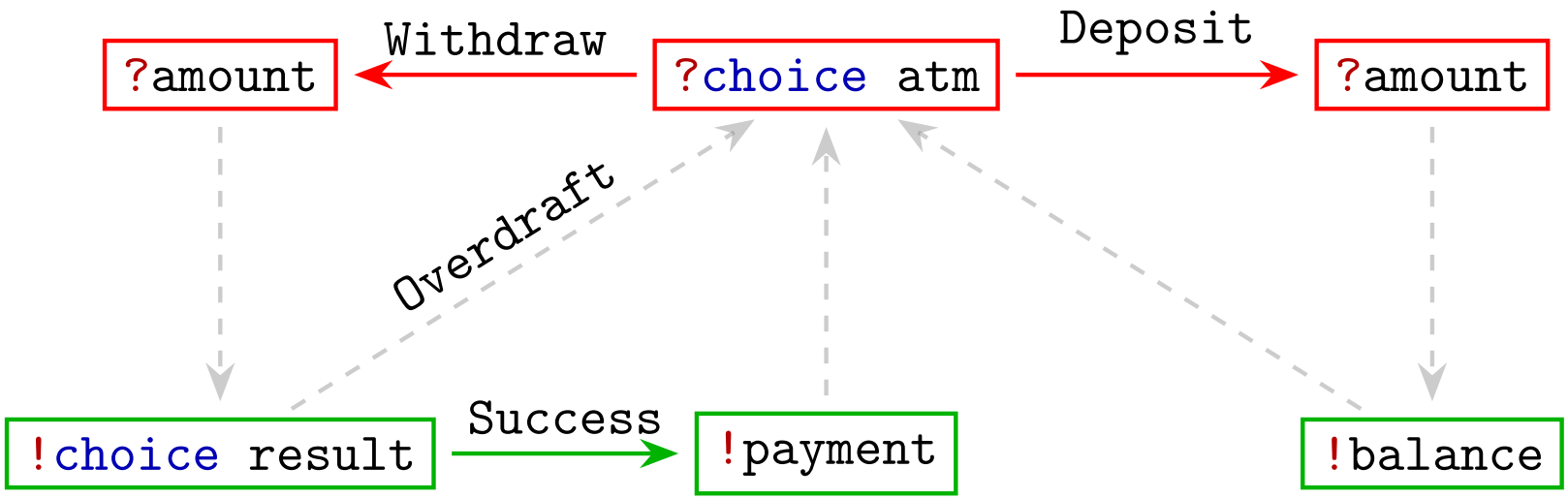
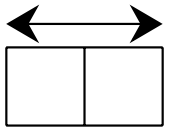
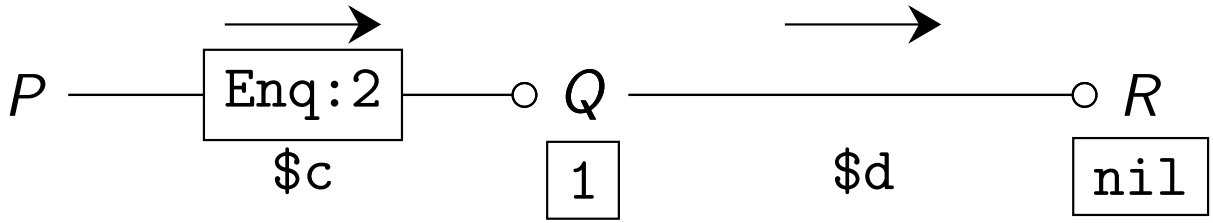




Contributions

Forwarding



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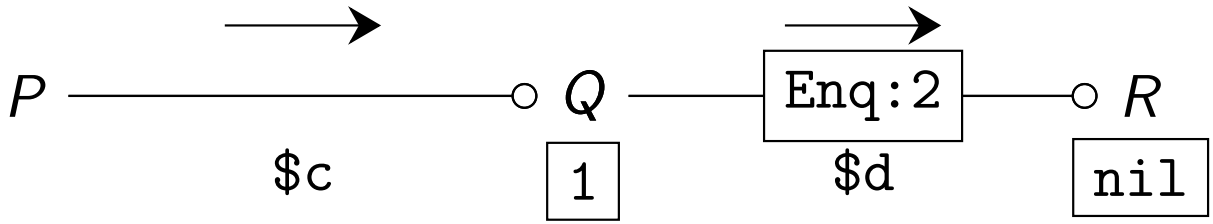

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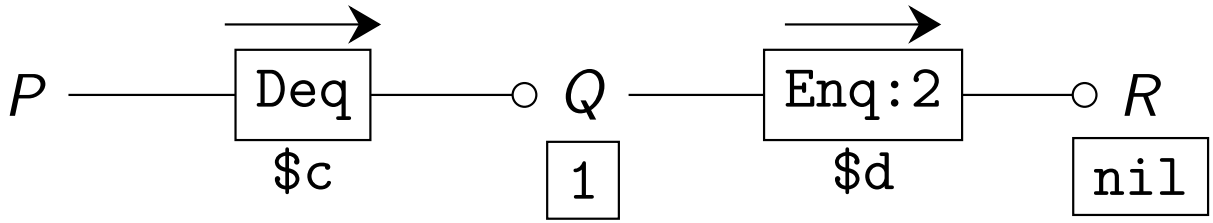

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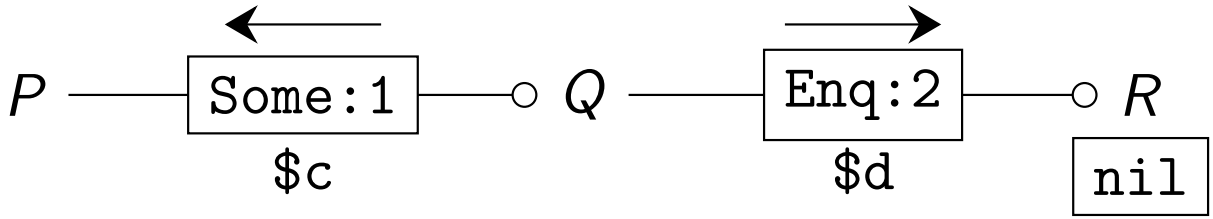

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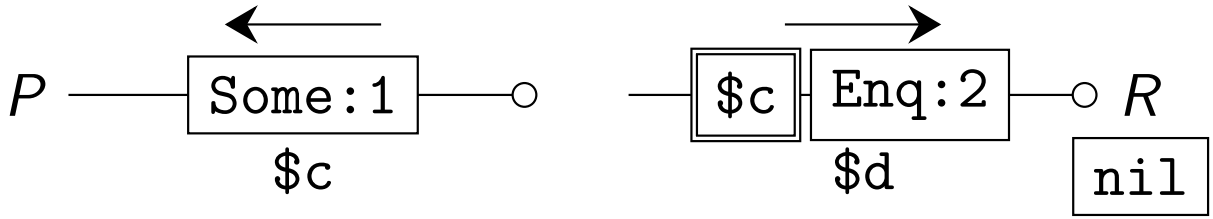

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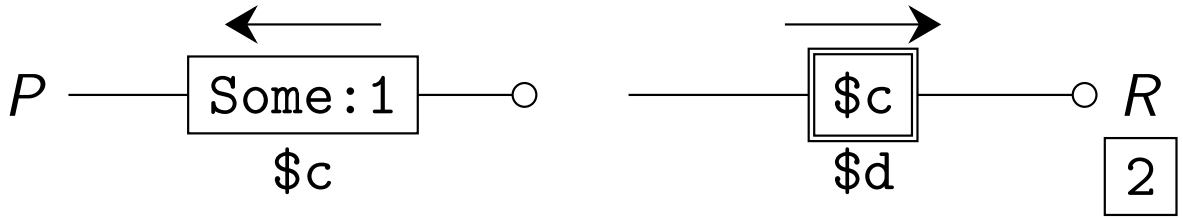

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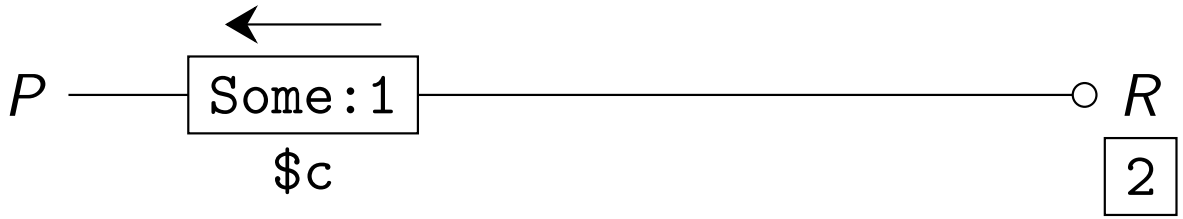

Takeaways

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Questions?