CORE C++
LIGHTENING STORM

INTERESTING ALGORITHMS (JUST SAY NO TO RAW LOOPS)

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BASED ON:
BETTER CODE (C++ SEASONING)

SEAN PARENT | PRINCIPAL SCIENTIST

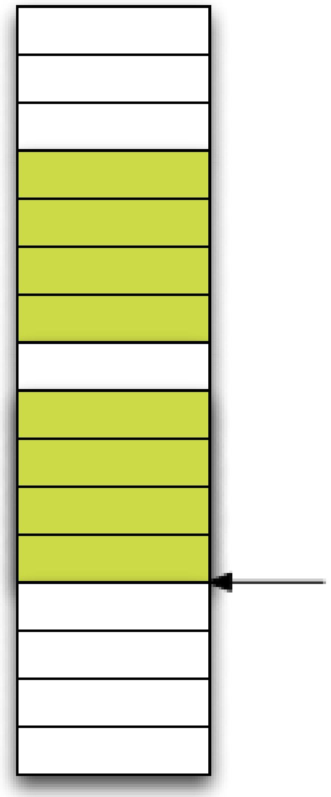
No Raw Loops

WHAT IS A RAW LOOP?

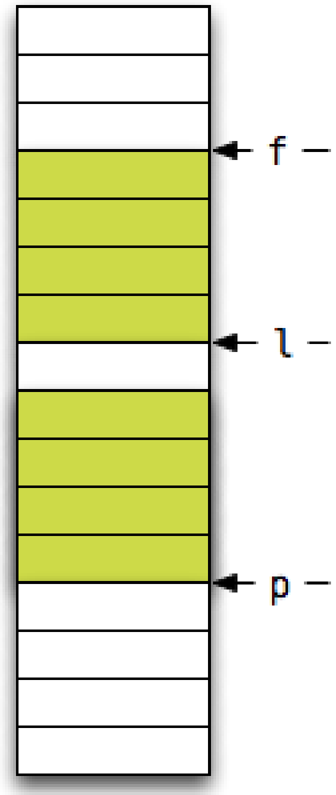
- A *raw loop* is any loop inside a function where the function serves purpose larger than the algorithm implemented by the loop

Two Beautiful Examples

NO RAW LOOPS

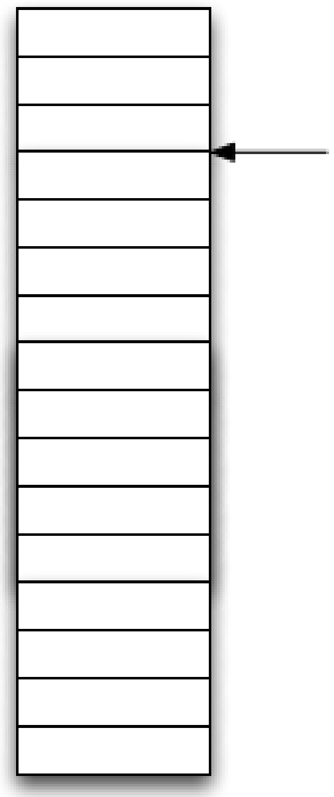


NO RAW LOOPS



```
rotate(f, l, p);
```

NO RAW LOOPS



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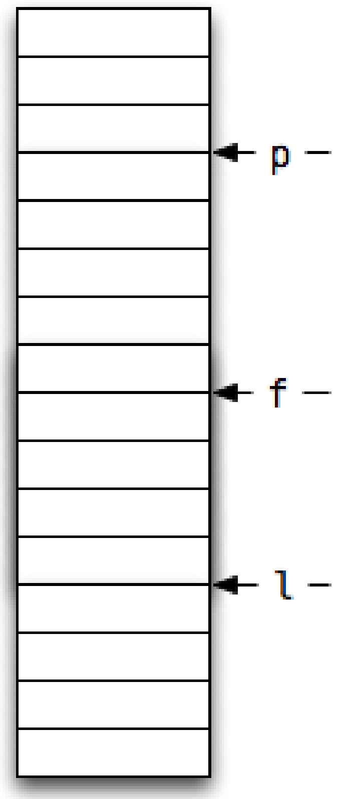
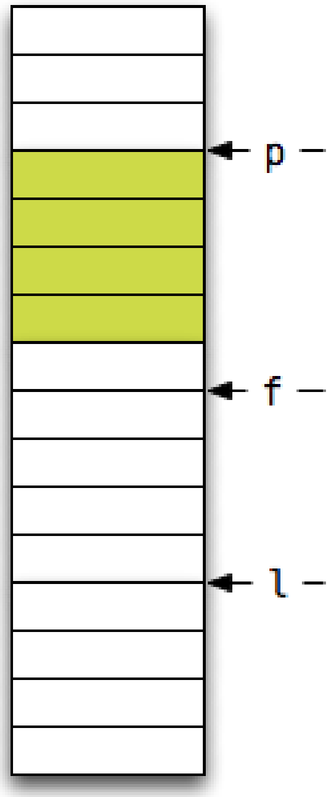


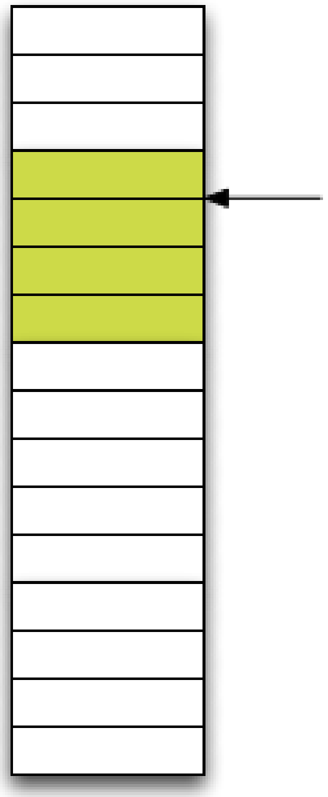
rotate(p, f, l);

NO RAW LOOPS



```
if (p < f) rotate(p, f, l);
if (l < p) rotate(f, l, p);
```

NO RAW LOOPS



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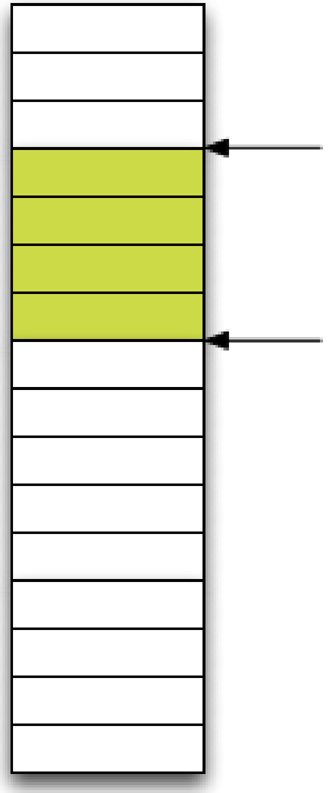

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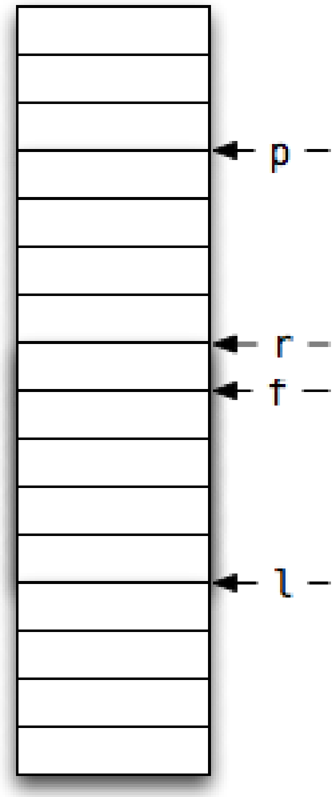
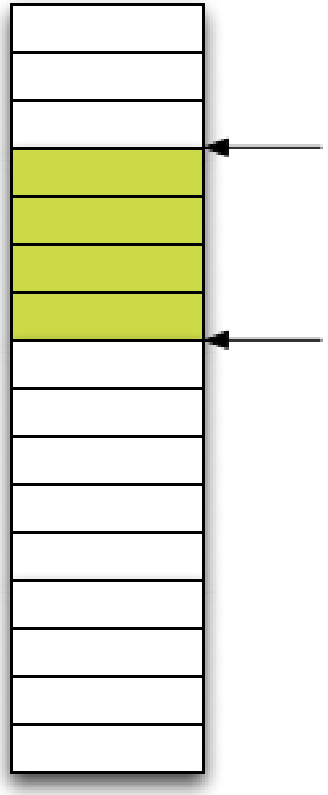


```
if (p < f) return { p, rotate(p, f, l) };
if (l < p) return { rotate(f, l, p), p };
```

C++11

NO RAW LOOPS



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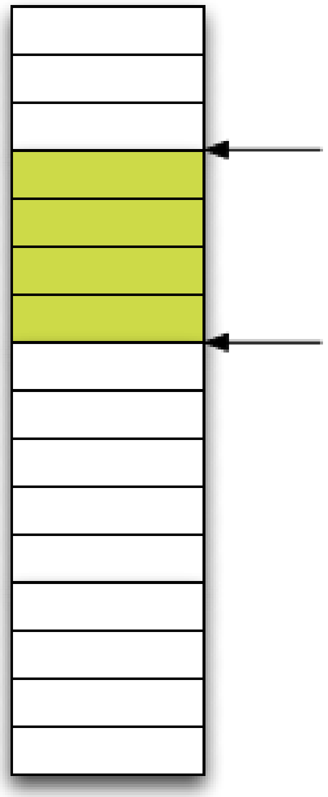
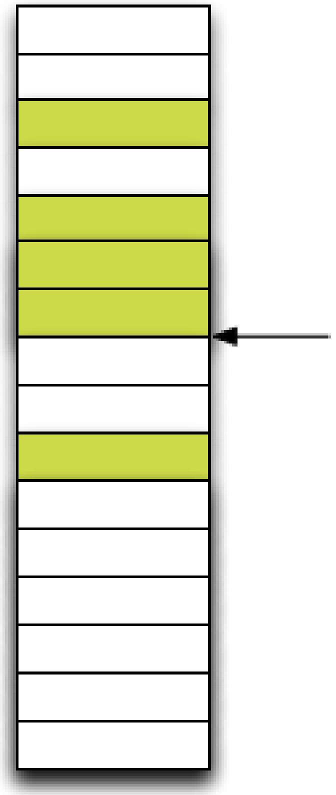


```
template <typename I> // I models RandomAccessIterator
auto slide(I f, I l, I p) -> pair<I, I>
{
   if (p < f) return { p, rotate(p, f, l) };
   if (l < p) return { rotate(f, l, p), p };
   return { f, l };
}
```

NO RAW LOOPS



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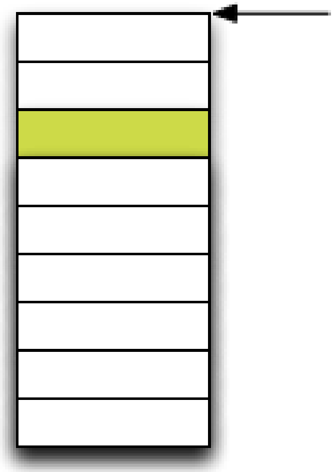
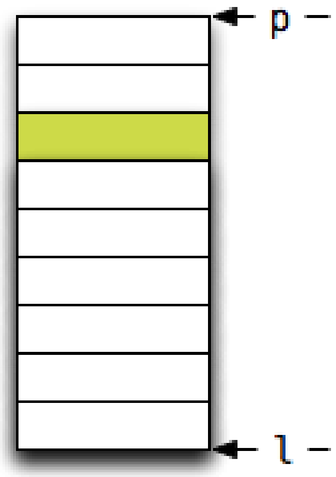


NO RAW LOOPS

stable_partition(p, l, s)



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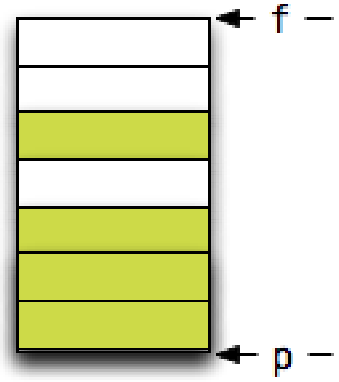
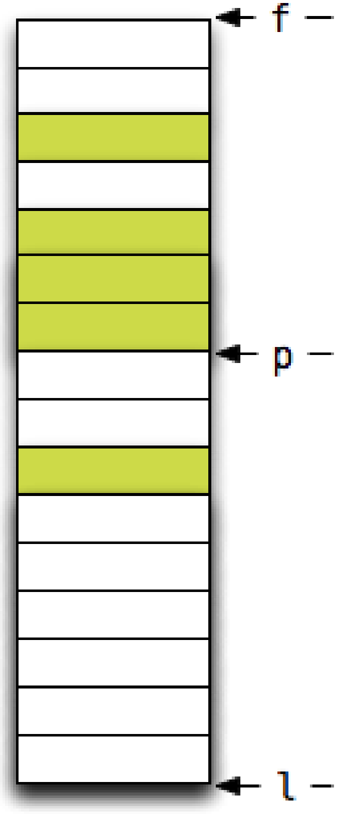


```
stable_partition(f, p, not1(s))
```

NO RAW LOOPS



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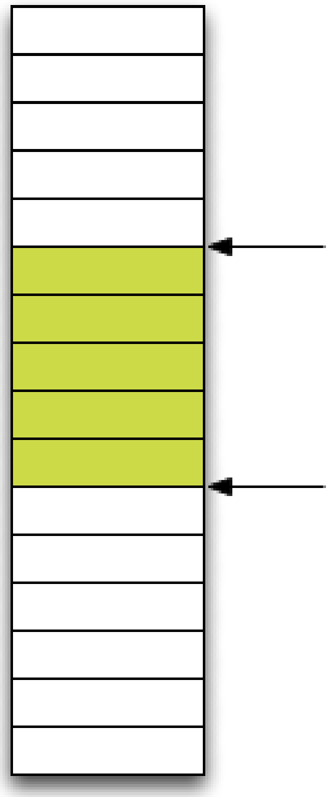

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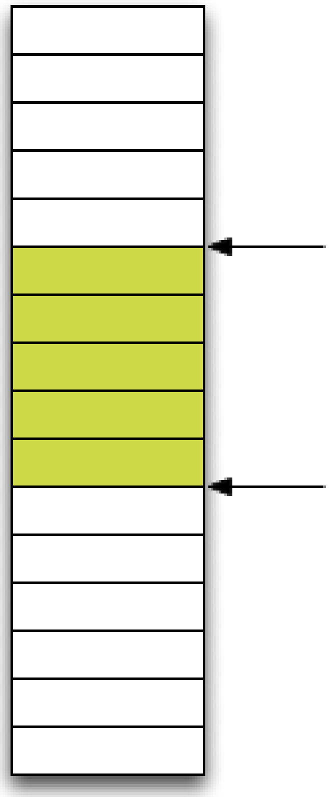

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return { stable_partition(f, p, not1(s)),
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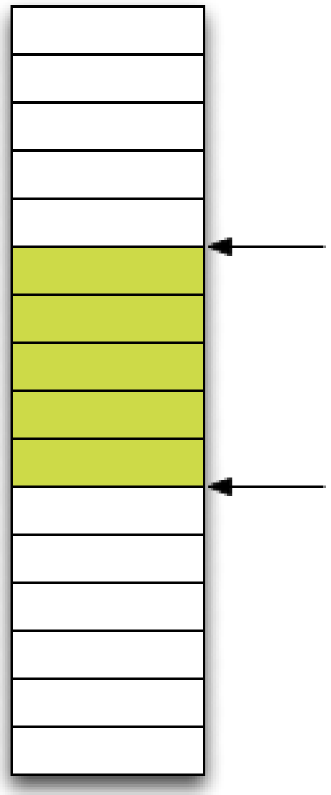

```
template <typename I, // I models BidirectionalIterator
        typename S> // S models UnaryPredicate
auto gather(I f, I l, I p, S s) -> pair<I, I>
{
   return { stable_partition(f, p, not1(s)),
            stable_partition(p, l, s) };
}
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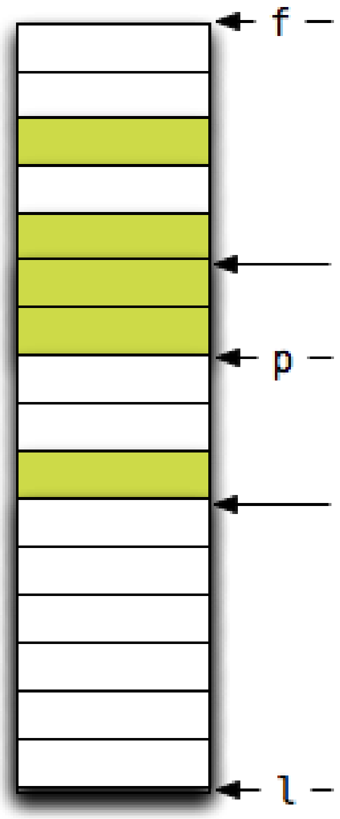

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*

LIVE

CORE C++

INTERESTING ALGORITHMS

June 28th

SHIMON SHORE | JUST SAY NO TO RAW LOOPS