Google

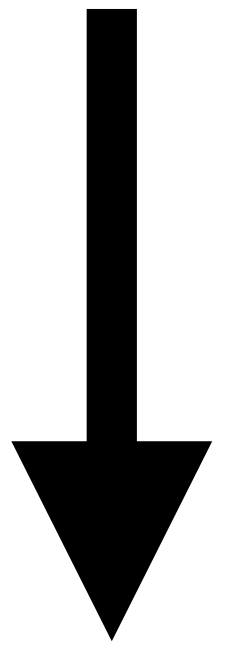
@fhinkel

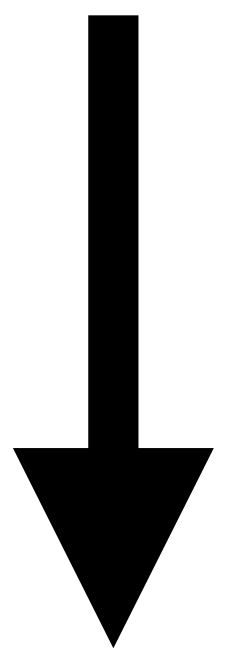
Optimized Machine Code

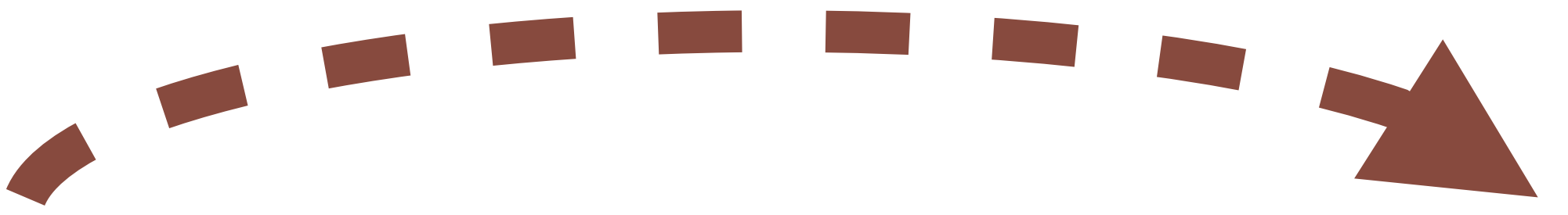
Machine code

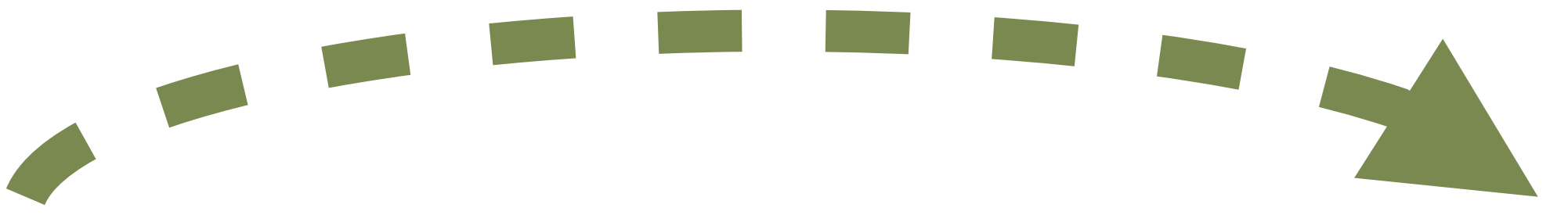
Optimizing Compiler

Baseline Compiler





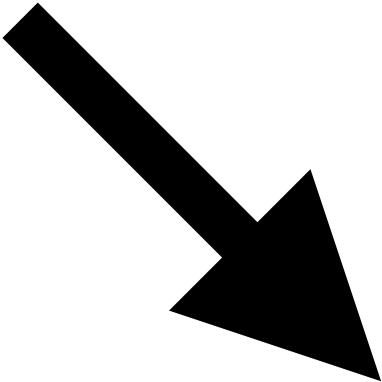




Cache of shortcuts

```
add({x: 42});
add({x: 7});
add({x: 123});
```

AST

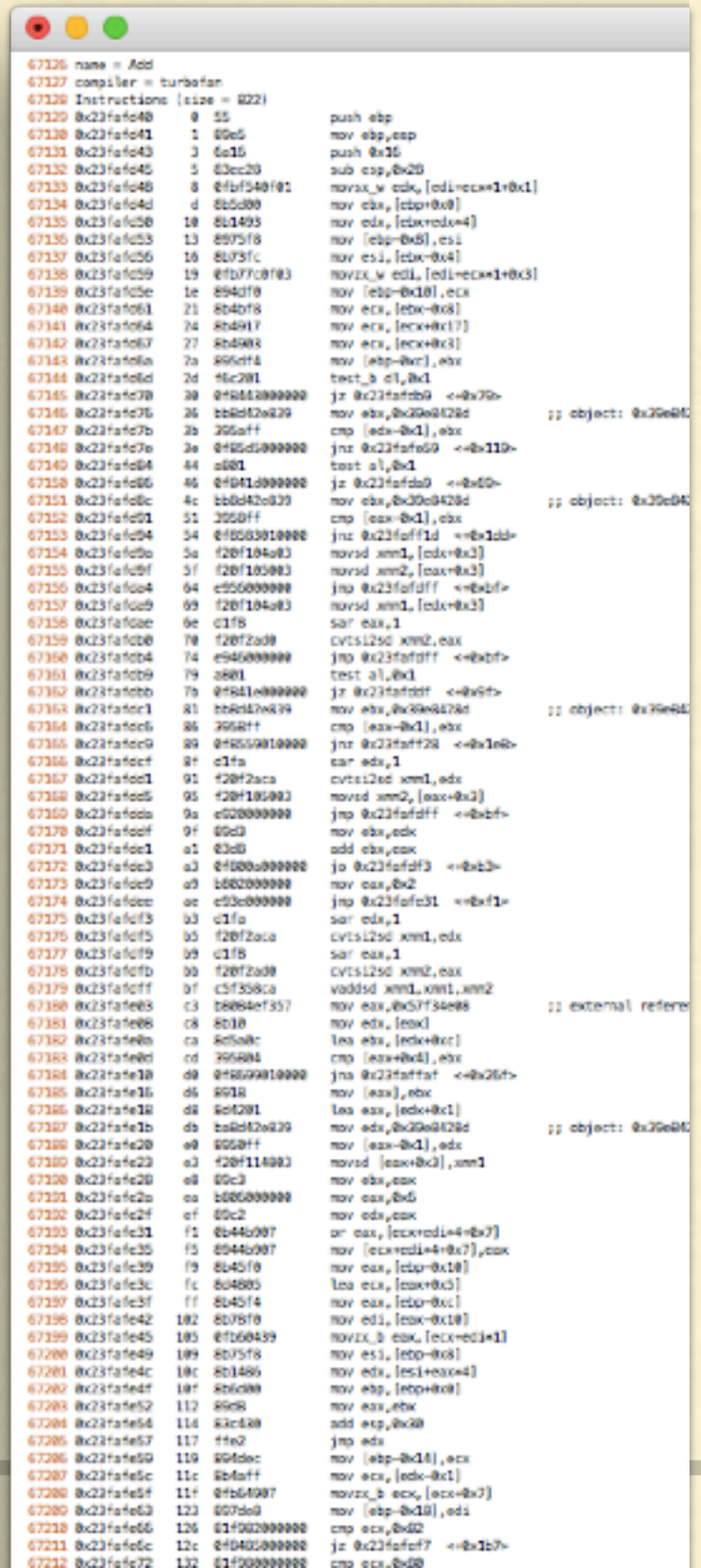


```
add({y: 17});
```

Re-compile “hot” functions

Deoptimize on wrong speculation

Baseline x86 assembly



Optimized x86 assembly, only valid for parameters like {x: int}

```
cmpq [rax-0x1],rbx
jnz bailout
movl rbx,[rax+0x1b]
addl rbx,0x1
```

AST

Re-compile “hot” functions

Baseline Compiler

Optimizing Compiler

```
add({x: 42});
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add({x: 123});
```

Cache of shortcuts

Machine code

Optimized Machine Code

```
add({y: 17});
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Deoptimize on wrong speculation