

# From $\iota$ to stateful $\lambda$

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# Some Test

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```
TEST(SomeNonInterestingTest)
```

```
{
```

```
    vector<char> v = {'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'};
```

```
    // Do something with v
```

```
    ...
```

```
}
```

# Using `std::iota`

---

```
TEST(SomeNonInterestingTest)
{
    vector<char> v(26);
    iota(begin(v), end(v), 'a');
    // v now is {'a', 'b', 'c', 'd', 'e', 'f', ..., 'x', 'y', 'z'}
    ...
}
```

# Using `std::generate_n`

---

```
TEST(SomeNonInterestingTest)
{
    vector<char> v;
    generate_n(back_inserter(v), 26,
               [c = 'a']() mutable {
                   return c++;
               });
    // v now is {'a', 'b', 'c', 'd', 'e', 'f', ..., 'x', 'y', 'z'}
}
```

# A more complex example

```
TEST(SomeNonInterestingTest)
```

```
{
```

```
    vector<char> v;
```

```
    generate_n(back_inserter(v), 20,
```

```
        [i = 1000, join = system_clock::now()-hours(600*24)] () mutable {
```

```
            ++i; join -= hours(i/10*24);
```

```
            return Employee{i, "Name_"+to_string(i), join, i%12};
```

```
        });
```

```
}
```

```
struct Employee
{
    int id;
    string name;
    time_point joining_date;
    int dept;
};
```

# References

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[std::iota - cppreference.com](#)

[C++ Weekly - Ep 37 - Stateful Lambdas - YouTube](#)

[C++ Weekly - Ep 51 - Advanced Stateful Lambdas - YouTube](#)

[C++ Weekly - Ep 68 - std::iota](#)