

Sampling Algorithms

Check out the cool new sampling feature added to C++.

New algorithm - `std::sample` - that selects `n` elements from the sequence:

```
#include <iostream>
#include <random>
#include <iterator>
#include <algorithm>
int main() {
    std::vector<int> v { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 };
    std::vector<int> out;
    std::sample(v.begin(), // range start
                v.end(),    // range end
                std::back_inserter(out), // where to put it
                3,          // number of elements to sample
                std::mt19937{std::random_device{}}());
    std::cout << "Sampled values: ";
    //for (const auto &i : out) std::cout << i << ", ";
    for (const auto &i : out){
        if(i == out.back()){
            std::cout << i;
        }
        else {
            std::cout << i << ", ";
        }
    }
}
```



Possible output:

```
Sampled values: 1, 4, 9
```

Extra info: he new sampling algorithms come from the adoption of Library Fundamentals V1 TS Components, Sampling [P0220R1](#)

C++ has also added a set of mathematical functions. Find out more in the next

• This also includes a set of mathematical functions. Find out more in the next lesson.