Swap Ranges

Along with moving data between ranges, we can also swap their values with one another.

`std::swap` and `std::swap_ranges` can swap objects and ranges.

`swap`: swaps objects:

```
void swap(T& a, T& b)
```

`swap_ranges`: waps ranges:

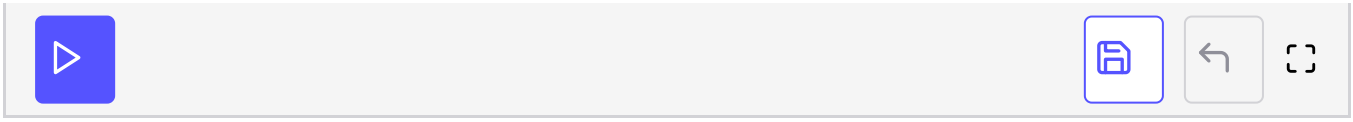
```
FwdIt swap_ranges(FwdIt1 first1, FwdIt1 last1, FwdIt first2)
FwdIt swap_ranges(ExePol pol, FwdIt1 first1, FwdIt1 last1, FwdIt first2)
```

The returned iterator points to the last swapped element in the destination range.

> ⚠ **The ranges must not overlap**

```
#include <algorithm>
#include <iostream>
#include <string>
#include <vector>

int main(){

  std::cout << std::endl;

  std::vector<int> myVec{0, 1, 2, 3, 4, 5, 6, 7, 9};
  std::vector<int> myVec2(10);

  for (auto v: myVec) std::cout << v << " ";
  for (auto v: myVec2) std::cout << v << " ";

  std::cout << std::endl;
  std::swap(myVec, myVec2);

  for (auto v: myVec) std::cout << v << " ";
  for (auto v: myVec2) std::cout << v << " ";
```

```
  std::cout << "\n\n";


  std::string str{"abcdefghijklmnop"};
  std::string str2{"--------------------"};

  std::cout << str << std::endl;
  std::cout << str2 << std::endl;

  std::swap_ranges(str.begin(), str.begin() + 5, str2.begin() + 5);

  std::cout << str << std::endl;
  std::cout << str2 << std::endl;

  std::cout << std::endl;

}
```



Swap algorithms