## - Exercises

In this exercise, you will extend the MyDistance class from the example in the previous lesson.

WE'LL COVER THE FOLLOWING ^

- Task 1
- Task 2

## Task 1#

Extend MyDistance from the previous example to support the following units:

- 1. Feet (ft)
  - 9 \$1 ft = 0.3048m \$
- 2. Mile (mi)
  - ∘ \$1 mi = 1609.344 m \$

Tip: Define a good suffix for these units as well.

## Task 2 #

Your weekly drive with your car consists of many components: work, workPerDay, workout, abbrevationToWork and shopping.

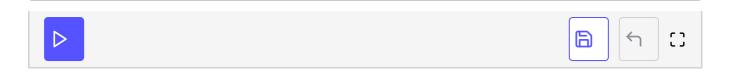
```
workPerDay = 2 * work;
```

Extend MyDistance so you can calculate the total distance of your weekly drive. An example follows:

Distance::myDistance myDisPerWeek;

```
//userDefinedLiteral.cpp
                                                                                           0
#include <iostream>
#include <ostream>
namespace Distance{
  class MyDistance{
    public:
     MyDistance(double i):m(i){}
      friend MyDistance operator +(const MyDistance& a, const MyDistance& b){
        return MyDistance(a.m + b.m);
      friend MyDistance operator -(const MyDistance& a, const MyDistance& b){
        return MyDistance(a.m - b.m);
      friend std::ostream& operator<< (std::ostream &out, const MyDistance& myDist){</pre>
        out << myDist.m << " m";</pre>
         return out;
    private:
      double m;
  };
  namespace Unit{
    MyDistance operator "" _km(long double d){
     return MyDistance(1000*d);
    MyDistance operator "" m(long double m){
     return MyDistance(m);
    MyDistance operator "" _dm(long double d){
     return MyDistance(d/10);
    MyDistance operator "" cm(long double c){
     return MyDistance(c/100);
using namespace Distance::Unit;
int main(){
  std:: cout << std::endl;</pre>
  std::cout << "1.0_km: " << 1.0_km << std::endl;</pre>
  std::cout << "1.0_m: " << 1.0_m << std::endl;
  std::cout << "1.0_dm: " << 1.0_dm << std::endl;
  std::cout << "1.0_cm: " << 1.0_cm << std::endl;
  std::cout << std::endl;</pre>
  std::cout << "1.0_km + 2.0_dm + 3.0_dm - 4.0_cm: " << 1.0_km + 2.0_dm + 3.0_dm - 4.0_cm <
  std::cout << std::endl;</pre>
```

myDistPerWeek= 4 \* workPerDay - 3 \* abbrevationToWork + workout + shopping



You can find the solution to these tasks in the next lesson.