- Example

We'll take a look at an example of raw and cooked forms of user-defined literals.

WE'LL COVER THE FOLLOWING

- Example
  - Explanation

Example

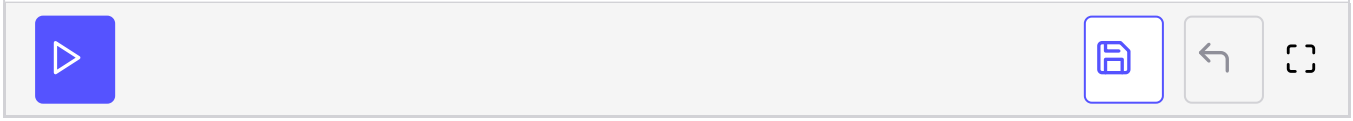
main.cpp

distance.h

unit.h

```
// average.cpp

#include "distance.h"
#include "unit.h"

using namespace Distance::Unit;

int main(){

  std:: cout << std::endl;

  std::cout << "1.0_km: " << 1.0_km << std::endl;
  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;

  std::cout << "0.001 * 1.0_km: " << 0.001 * 1.0_km << std::endl;
  std::cout << "10 * 1_dm: " << 10 * 1.0_dm << std::endl;
  std::cout << "100 * 1.0cm: " << 100 * 1.0_cm << std::endl;
  std::cout << "1_.0km / 1000: " << 1.0_km / 1000 << std::endl;

  std::cout << std::endl;
  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;
```

```
  auto work= 63.0_km;
  auto workPerDay= 2 * work;
  auto abbrevationToWork= 5400.0_m;
  auto workout= 2 * 1600.0_m;
  auto shopping= 2 * 1200.0_m;

  auto distPerWeek1= 4*workPerDay-3*abbrevationToWork+ workout+ shopping;
  auto distPerWeek2= 4*workPerDay-3*abbrevationToWork+ 2*workout;
  auto distPerWeek3= 4*workout + 2*shopping;
  auto distPerWeek4= 5*workout + shopping;

  std::cout << "distPerWeek1: " << distPerWeek1 << std::endl;

  auto averageDistance= getAverageDistance({distPerWeek1,distPerWeek2,distPerWeek3,distPerWe
  std::cout<< "averageDistance: " << averageDistance << std::endl;

  std::cout << std::endl;

}
```



Explanation

- We did our computations based on user-defined literals of the type `long double` in the cooked form. To make our calculation in the raw form, we must only adjust the literal operators.
- It is only necessary to convert the arguments of the literal operator from type C string to `long double`. That is quite easy to do with the new function `std::stold`.

Now that we have gone over user-defined literals, we will study built-in literals in the next lesson.