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/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference, 2nd Edition"
 * by Nicolai M. Josuttis, Addison-Wesley, 2012
 *
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 */
#include <functional>
#include <iostream>

int main()
{
    auto plus10 = std::bind(std::plus<int>(),
                           std::placeholders::_1,
                           10);
    std::cout << "+10: " << plus10(7) << std::endl;

    auto plus10times2 = std::bind(std::multiplies<int>(),
                                  std::bind(std::plus<int>(),
                                              std::placeholders::_1,
                                              10),
                                  2);
    std::cout << "+10 *2: " << plus10times2(7) << std::endl;

    auto pow3 = std::bind(std::multiplies<int>(),
                          std::bind(std::multiplies<int>(),
                                      std::placeholders::_1,
                                      std::placeholders::_1),
                          std::placeholders::_1);
    std::cout << "x*x*x: " << pow3(7) << std::endl;

    auto inversDivide = std::bind(std::divides<double>(),
                                  std::placeholders::_2,
                                  std::placeholders::_1);
    std::cout << "invdiv: " << inversDivide(49, 7) << std::endl;
}

```