Question 3: C++ Basic Programming

Complete the attached **C++** program **Q3.cpp** as follows:

a) Write the body of the function

`void print_real( float number, int fieldspace, int precision)`

to print the value of `number` in a fixed point-notation, in an output field of `fieldspace` positions where the number of decimal digits is `precision`, followed by a `new line`.

[1 mark]

b) Add a C++**template function** `void update_scale` having **two C++ reference variable** parameters *m1* and *m2* and a **C++ default parameter** m3 of value 10. All the parameters are of the same data type name **T. In the body of the function, you should update,**

- m1 with the sum of the **original values** of the function parameters m1 and m2, then multiply it by m3.
- m2 with the difference of the original values of m1 and m2, then multiply it by m3.

c) Execute the program. If the values of the variables *a* and *b* in the main() function have changed, explain why.