Exercise Session 11

January 25, 2013

Write a different program for each of the following point.

- Statically check if a template parameter of a class is **int** or **double**; rise an error otherwise.
- Declare a function that print a template variable. Statically check if the latter is not a raw pointer.
- Declare **unsigned int** i, then declear a **float** or an **int** if i is signed or unsigned without explicity know the type of i. Check the result.

Write a program that perform a dot product using the template metaprogramming technique. Using the following hints:

1. Use the container std :: array to store the two vectors.
2. Declare a class templetized on the index, using a std :: size_t , of the array.
3. In the class introduce a static method, called apply, which perform one operation of the dot product and call again apply with the index decreased by one. Beware this method should be **inline** .
4. Specialize the method apply for the case of zero index.
5. Overload the **operator** $*$ and use it.