CP2406 Prac-10

By solving the following exercises, you can practice the material discussed in the relevant chapter. Solutions to all exercises are available in the "solutions"-subfolder. However, if you are stuck on an exercise, first reread parts of the chapter to try to find an answer yourself before looking at the solutions.

NOTE! VSCode is getting confused very often. Tested fixes:
* Close and open it.
* Delete ".vscode" folder(s).
* How to configure and compile VSCode for multiple .cpp files: see prac05

Please note that std-17 solutions may not be provided but you need to submit this prac solution in std-17.

prac10_task1 for Chapters 18-"Containers"

1) Complete Exercise 18-1:

Exercise 18-1: This exercise is to practice working with `vectors`. Create a program containing a `vector` of `ints`, called `values`, initialized with the numbers 2 and 5. Next, implement the following operations:

1. Use `insert()` to insert the numbers 3 and 4 at the correct place in `values`.
2. Create a second `vector` of `ints` initialized with 0 and 1, and then insert the contents of this new `vector` at the beginning of `values`.
3. Create a third `vector` of `ints`. Loop over the elements of `values` in reverse, and insert them in this third `vector`.
4. Print the contents of the third `vector` using a range-based `for` loop.

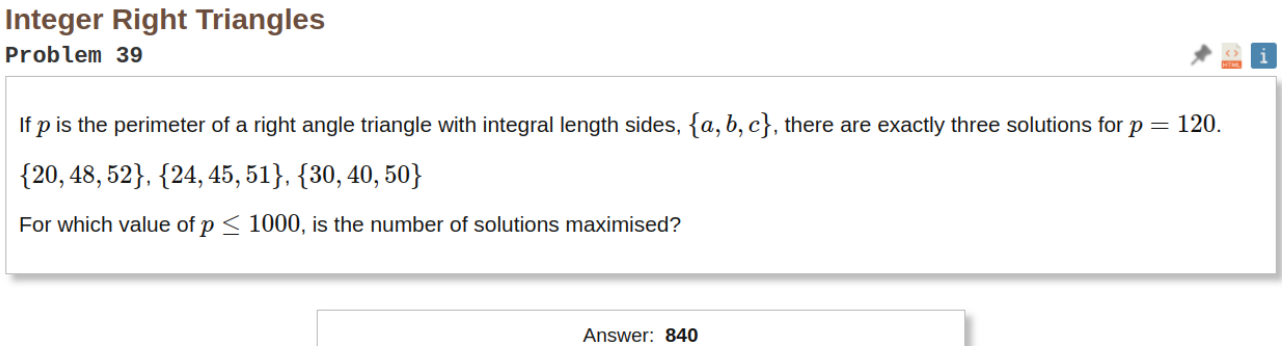
prac10_task2 for Chapter 19-"Function Pointers"

2) Complete Exercise 19-1: Rewrite the IsLargerThan function object example from this chapter using a lambda expression. The starter code is in prac10_task2.

3) Try to make it work with two versions of lambda. One stateless and one stateful, see lecture slides.

prac10_task3

4) Convert python solution (see prac10_task3_int_triangles) for problem 39 of the Euler project https://projecteuler.net/problem=39 to C++..



5) Hint: Search for std::tuple. To get individual element of a tuple, use std::get<index>.

6) Hint: python's dictionary {} is std::map.

7) Hint: remember how to do safe casting in c++? It is static_cast<int>.

prac10_task4

8) Some part of this prac can be used to provide help with the coding assignment.

========== THE END ==========