Final Exam

The final exam is a project where each student will create a program that must include at least one topic from each block below.

A. Multithreading: std::thread;
B. Asynchronous: std::future;

A. C++ Exceptions: Try, Throw, and Catch Statements;
B. Move Semantics: Move constructor, Move assignment operator;
C. Smart Pointers: unique_ptr or/end shared_ptr or/end weak_ptr.

A. Function Pointer;
B. Functor;
C. Lambda Function.

A. Sequencial Containers: Vector or/end List
B. Container Adapters: Stack or/end queue
C. Associative Containers: set or/and map or/end unordered_map.

Students can use projects by other authors as a guide, as long as they cite the author and present their contribution. The student must have a deep understanding of the code being executed.

The student will present his project to the whole class on Jun 14th.

Time of your talk: Between 15 and 25 minutes to present and a maximum of 5 minutes to answer questions.

Content Organization:

- Create a presentation in PowerPoint
- Describe the program clearly enough for the audience to understand the functionality of your project.
- Indicate the topics included in your project that are prerequisites (topics in the blocks above).
- Talk about a piece of code that was challenging, if any.
- Run the code displayed some output.
- Present your contribution clearly.
- Provide references.

Mark Project:

- Program: Is the project relevant and interesting? **0 - 10 points**;
- Structure: Use of required tools **0 - 40 points;**
- Knowledge of Topic: Content at appropriate level and Answers audience questions **0 - 10 points.**
- Quality of material: slides **0 - 15 points** / Clean code **0 - 15 points**
- Presentation Skills: Flow easy to follow / logical progression **0 - 5 points**;
- Group Skills: Voice projection / eye contact **0 - 5 points.**