Port C and C++ Courses to xeus-cpp for interactive learning

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About me

My name is Georgi Runtolev, and I am a student at High School of Mathematics “Akad. Kiril Popov” in Plovdiv. I have been passionate about programming for the past six years, with experience in C++ and C#. I am looking forward to further developing my skills and gaining practical experience through my internship at Compiler Research.

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Why I chose this project

Jupyter notebooks provide a way to write and execute code step by step. This has several advantages:

- ➔ encourages experimentation
- ➔ makes learning more intuitive
- ➔ helps beginners test small ideas quickly

What is xeus-cpp?

Xeus-cpp is a C++ kernel for Jupyter notebooks. It allows executing code in separate cells, between which program state is preserved.

The rich output support makes xeus-cpp ideal for teaching - you can display markdown, as well as various tables and charts, which allows for better visualization.

Project overview

The project focuses on adapting C and C++ courses to the xeus-cpp environment. This is done by converting traditional examples into interactive notebook format.

The goal of this project is to make programming concepts easier to understand and explore by beginners.

Project timeline

Week 1-3: Set up, configure, and test the environment. Study and understand xeus-cpp behaviour

Week 4-8: Port C and C++ basics

Week 9-12: Expand to more advanced C and C++ topics

Week 13-15: Refinement and debugging. Create documentation and final report

Expected results

- ➔ A collection of interactive C and C++ notebooks
- ➔ Clear examples of programming concepts
- ➔ Documentation of xeus-cpp behaviour
- ➔ Guidelines and teaching materials for using notebooks effectively

Thank you!