# Introduction to C++

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# Administration

- Course Git repository at
  **https://github.com/martinjrobins/cpp_course_material**
  - Contains lecture notes and exercises
- Combination of lectures and practical sessions
  - Practical exercises (`practical*.pdf`) give you practice on the material covered in the lectures

# Outline

This training course covers the following topics:

1. basic types, flow control, `std::array`, input/output
2. pointers, references, functions, templates, `std::vector`
3. classes and object-oriented programming

This course gives you a practical toolbox of C++ programming up to C++14. *This is a small part of C++ as a whole!*.

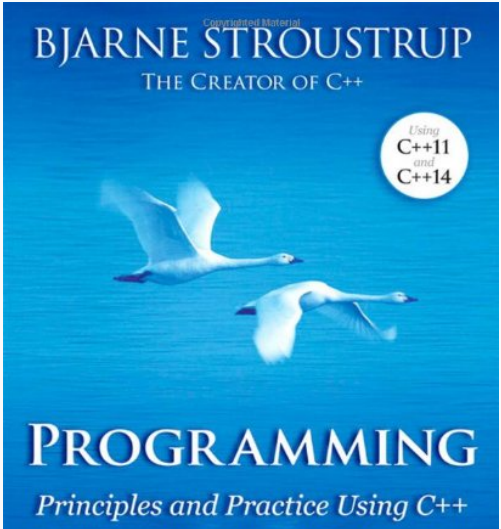
# Timetable

Tuesday to Friday:

- 09:30-11:00 Lecture & practical session
- 11:30-13:00 Lecture & practical session
- 13:00-14:00 Lunch
- 14:00-17:30 Practical session

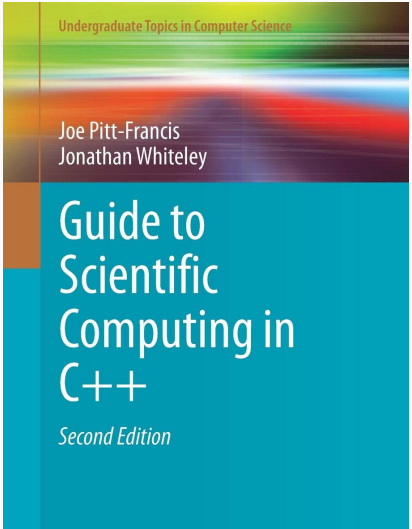
# Books

- Programming: Principles and Practice Using C++



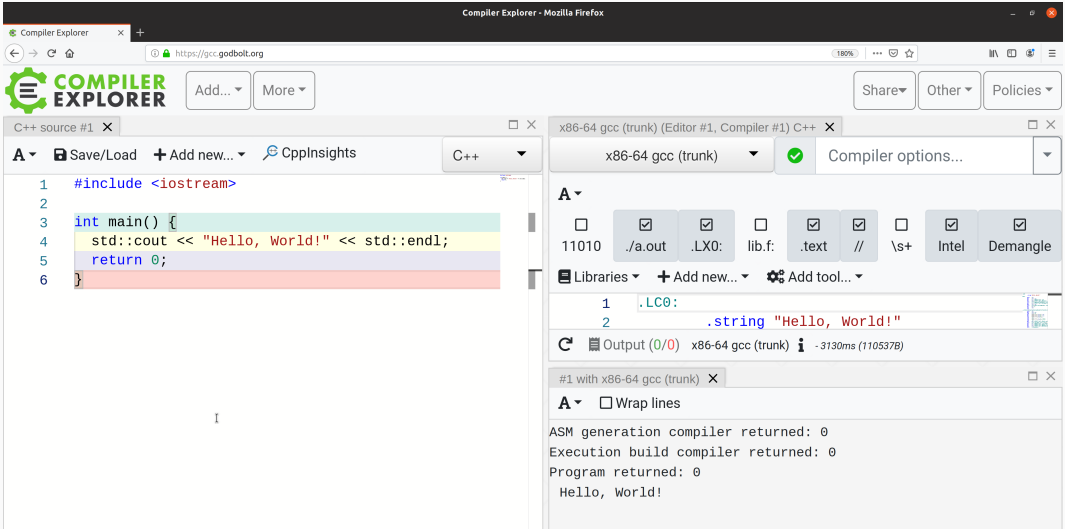
# Books

- Guide to Scientific Computing in C++



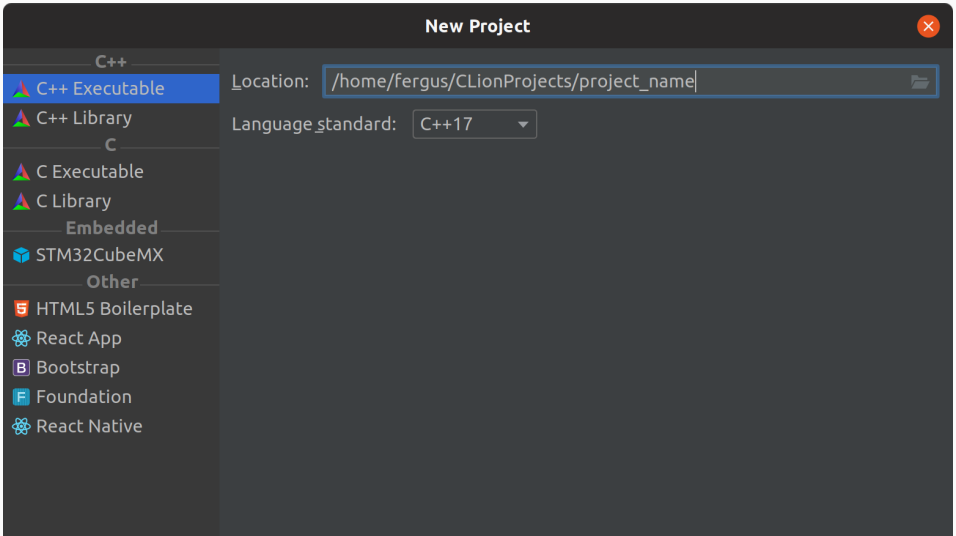
# Software for the course

- Compiler explorer



# Software for the course

- CLion



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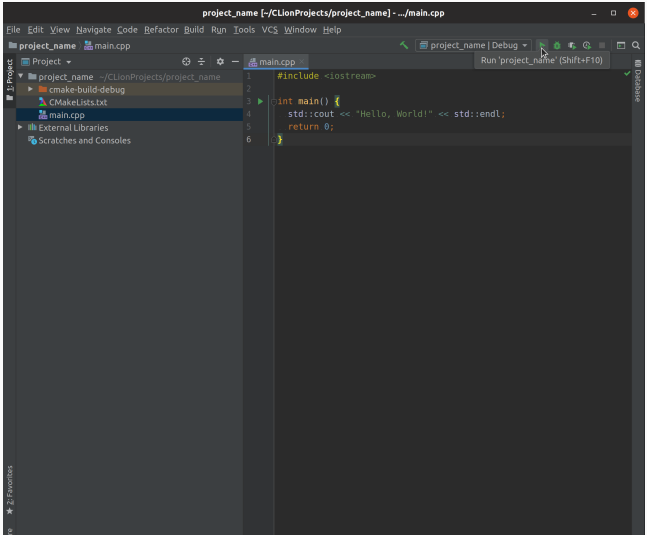

# Acknowledgements

Material for this course adapted from:

- Pitt–Francis & Whiteley: Guide to Scientific Computing in C++
- C++ for Scientific Computing course by Joe Pitt–Francis:
  http://www.cs.ox.ac.uk/people/joe.pitt-francis/C++ScientificComputing/