

Candidate Number: **2392F**  
Project Title: **An Optimising Compiler from Haskell  
to Java Bytecode**  
Examination: **Computer Science Tripos – Part II, July 2019**  
Word Count: **13551** <sup>1</sup>  
Lines of Code: **8569** <sup>2</sup>  
Project Originator: Keith Collister  
Project Supervisor: Dr. Timothy Jones

## Original Aims

The aim of the project was to build an optimising compiler from a subset of Haskell to Java Bytecode, to explore compiler and language implementation beyond what was covered in the Tripos.

## Work Completed

A larger-than-expected subset of Haskell is supported, with non-strict evaluation and a small number of optimisations. A number of extensions were implemented, including typeclasses.

## Special Difficulties

None.

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<sup>1</sup>Calculated using `texcount -1 -sum`

<sup>2</sup>Calculated using `wc -l`