Formal Proof for Type Preservation of the Dictionary Passing Transform from System O to Hindley Milner

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Abstract. Abstract.

1 Introduction

2 Preliminary

2.1 Agda

Curry Howard Isomorphism

2.2 Sorts / ???

2.3

3 Hindley-Milner System

3.1 Syntax, Typing and Semantics

3.2 Formalization

3.3 Soundness Proof

4 Overloading System

4.1 Syntax, Typing and Semantics

4.2 Formalization

5 Dictionary Passing Transform

5.1 Type Preservation Proof

6 Conclusion and Further Work

References

1. Odersky, M., Wadler, P. & Wehr, M. A Second Look at Overloading. *Proceedings Of The Seventh International Conference On Functional Programming Languages And Computer Architecture*. pp. 135-146 (1995), https://doi.org/10.1145/224164.224195
2. Milner, R. A theory of type polymorphism in programming. *Journal Of Computer And System Sciences*. **17**, 348-375 (1978), https://www.sciencedirect.com/science/article/pii/0022000078900144