

1 Type Theory: Well-formed expressions

Determine whether the following expressions are well-formed expressions of type theory. j is a constant of type e , M a constant of type $\langle e, t \rangle$, S a constant of type $\langle \langle e, t \rangle, \langle e, t \rangle \rangle$, and C constant of type $\langle \langle e, t \rangle, t \rangle$.

1. $S(M(j))$
2. $S(M)$
3. $S(M)(j)$ $[=(S(M))(j)]$
4. $C(M)$
5. $C(M)(j)$
6. $C(S(M))$
7. $S(S(M))(j)$

2 Semantic representations in type theory

Find formulas of type theory that represent the truth conditions of the following sentences *as accurately as possible*, and indicate the types of the constants. You can represent words that are connected by hyphens (“lives-in”) as single constants of an appropriate type.

1. John gives Mary a book.
2. John owns a red car.
3. John lives-in a very nice house.
4. John works in Saarbrücken.
Try to come up with two translations: one using “Davidsonian” event variables, and another one in which the preposition in is analysed as a higher-order predicate.
5. John rarely sleeps.

3 Meaning Postulates for Adjectives

In the lecture, we discussed a meaning postulate for the intersective adjective “blond” stating that a blond student is both blond and a student (slide 25). Try to formulate corresponding meaning postulates (a) for the adjective “good” stating that a good student is a student, and (b) for the adjective “former” stating that a former student is not a student.

To be turned in by Tuesday, 2009-06-16