Several types of types in programming languages

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Abstract

Types are an important part of any modern programming language, but we often forget that the concept of type we understand nowadays is not the same it was perceived in the sixties. Moreover, we superpose the concept of "type" in programming languages with the concept of the same name in mathematical logic, an identification which is only the result of the convergence of two different paths, that started apart with different aims. The paper will present several remarks (some historical, some of more conceptual character) on the subject, as a basis for a further investigation. The thesis we will argue is that there are three different characters at play in programming languages, all of them now called types: the technical concept used in language design to guide implementation; the general abstraction mechanism used as a modelling tool; the classifying tool inherited from mathematical logic. We will suggest three possible dates ad quem for their presence in the programming language literature.

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