"Haskell's influence on functional programming"

Functional programming is a programming paradigm which does computation by evaluating mathematical functions. This type of programming uses expressions rather than commands.

Haskell was made in 1990 to help promote the paradigm of lazy functional languages. A committee decided to consolidate all pre-existing functional languages into one, and so Haskell was created [7]. It is named after the mathematician Haskell Curry [1]. Haskell was designed by various scientists and mathematicians such as Paul Hudak, John Hughes, and Philip Wadler [2] and was joined by the Glorious Haskell Compiler (ghc) which is the de facto standard compiler for Haskell after its release on April 1, 1991 [1].

"Lazy" programming language means that Haskell delays the evaluation of an expression until it is needed. Furthermore, it avoids repeated evaluations and therefore saves processing time. [8] Haskell is known for its strict compiler GHC (among others) which mentions all possible errors during compile time to prevent possible runtime errors. [9] The actual importance of Haskell is shown by how influential it has been to various languages such as CoffeeScript[4], Java[1], Python[1], Perl 6 [6].

Python adopted Haskell's list comprehension notation and Javascript planned to adopt it after changing the name to array comprehensions. Java's use of bounded types is closely related to type classes from Haskell. [15] Haskell has also influenced C# and Visual Basic who's features are based off Haskell's monad comprehensions.[15]

Haskell, 25 years later still being used in the industry by companies such as Facebook for its anti-spam scripts [10], Bluespec Inc to help build integrated circuits , AT&T to automate the handling of internet abuse complaints and Google for its internal tech support [11]. Its current applications are focused towards mathematical models, communication systems and artificial intelligence applications. The language was influenced by those made before it such as Lisp and Miranda [7]. Makers of Haskell actually approached the inventor of Miranda but were turned down when trying to use Miranda as a base language for Haskell due to ideological differences between the developers [16].

Haskell has had an obvious influence on programming languages, not only functional but also object oriented such as Java, C and C#. In the words of the developers of the language "We believe the most important legacy of Haskell will be how it influences the languages that succeed it."[17] . The versatility of Haskell will keep its legacy strong by constantly influencing other languages.