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COMPUTER PROGRAMMING LANGUAGES: HISTORY & FUTURE

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Nowadays, there are hundreds of computer programming languages with different features, and different syntax. A computer programming language is a formal or mutual language consisting of instructions for the computer to arrive at an outcome this implements algorithms, with this being said, there 4 major types of programming namely: functional, logical, imperative and object-oriented. But has it ever crossed your mind to pause for a second and wonder how it all started? In this paper we present a brief overview of the evolution of languages to get a general sense of the past, present, and future of computer programming languages.

The first-ever programming language was an algorithm that was created by Ada Lovelace in 1883 [1]. Ada Lovelace created this algorithm for Charles Babbage's Analytical engine. The purpose of this algorithm was to compute Bernoulli numbers. This is widely considered to be the first computer programming language. Moving forward, in 1936, Alan Turing invented the turning machine which encrypts messages during the second world war, but in the late 40s it was difficult to work with mechanical computers so electronic computers were introduced, with electronic computers a common language was needed between human and machines to interact. Electronic computers understand machine language which includes zeros and ones. Out of this assembly language was first developed in 1947 but there were too many challenges with this language so high-level language was created from 1950 to 1960, examples of high-level languages are autocode (1952), Flow-Matic (1955), IPL (1956), Fortran (1954-1958), LISP (1958-1960) and COBOL (1960). Moving forward in time, there were expansions of special languages as well as general languages; from 1960 to 1970 such as APL (1964), BASIC (1964), BSPL (1965), Simula (1962-1967), but all these languages were still very difficult to use so PASCAL was created. From 1970 to 1980 Ken Thomas and Dennis Ritchie introduced a new language called the C language which is very well known and common today. The C language is the successor of D language, which is the successor of BCPL there was an introduction of structured query language by IBM. There were still some loopholes and difficulties which were not making programming comfortable and easy for programmers and developers as well as users of these languages so the creating of new languages was still activate from 1980 to 2000. Objective C, created in 1984 and C++ created in 1981-1986 during 1987 a new language was created to help with extracting and report language this was called PEARL.

Programming languages developed until 1991, such as C were great. But it always feels difficult to write code in many programming languages. Then in 1991, Guido Van Rossum created a very user-friendly programming language. He named it Python because he

loved the British comedy group Monty Python so much [1]. Python went on becoming a very popular language in the upcoming years. Today Python is the fastest-growing programming language in terms of active developers, according to the annual Stack Overflow Developer Survey, one of the most comprehensive snapshots of programming language use available, while Perl has shrunk to the point where it didn't get a mention in the latest Stack Overflow report. Java was born around the same time, and it became very popular early on. Java is everywhere, from computers to smartphones and parking meters. Three billion devices run Java.

In 1997, Microsoft created its language named Csharp by this time the industry was changing via the internet and the tremendous amount of data produced by various social media platforms like Facebook, Twitter, LinkedIn, Yahoo, Google. So in 2003, a new language was introduced to handle this kind of data named Scala. Later in 2009 Google introduced a new language called Go which was intended to make much powerful language with simplified C++ features. Later in 2011 Kotlin was introduced which is now an official language to create android apps. In 2013, Google introduced one more language called Dart to replace Javascript and in 2014 Objective C was switched to a new language called SWIFT which was used to create IOS apps. Up until now, with all these being said Python, Javascript, Java, Csharp and C++ are the leading programming languages being used worldwide respectively.

Since the world is now a global village, with technology and internet taking the lion share of the happenings around the world, it is highly believed that computer programming languages will play a major role in the future of this planet; programming will be more abstract. This is because more virtual reality will be seen on the front end, meaning developers will have to gain extra skills to build these applications along with original language processing capabilities. Again Artificial Intelligence will become part of every developer's toolkit but won't replace them. An example is, Microsoft has added an AI platform into its windows 10 update so that every developer building an app on the OS will be able to use a pre-trained machine learning model. Furthermore, a universal programming language will arise, languages of the future may include visual images of data transformation, this might also involve senses that will help vision-impaired developers, the future will also hold a universal programming language which will support all developers irrespective of their spoken languages [2].”

In conclusion, programming languages were initially created to solve problems via the computer over the years with its first introduction in 1883 by Ada Lovelace. But since problem-solving always becomes dynamic, computer programming languages kept changing; different languages were being introduced. From 1936 up to date, from complex languages to user-friendly languages of it makes it very easy for modern developers to write software and applications in making both usual and unusual problems easy to solve, which makes life much easier. With a very few percentages of people saying technology nowadays has made the human race lazy, I think it rather makes problem-solving easy because the world is now controlled by technology with computer programming languages playing a vital role. The future of computer programming languages is assured to be mind-blowing since it has already started saving time and making work much easier to increase productivity.

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