

THE MOST POPULAR PROGRAMMING LANGUAGES IN BELARUS

Merkulova D.A., Belyavskaya N.S.
Supervisor– Ivanchenko V.V.

Language is a unique mean of communication through which we can share our thoughts and turn them into the public domain. Thanks to the language we exchange information, learn about the world, ask questions and get answers. To be understood, it is necessary to skillfully use the language.

Today it is hard to imagine our life without modern technologies. We can find their influences on almost every sphere of human's activity. However "communication" between a man and a computer would be impossible without such tools as programming languages.

Since the creation of the first programmable machines, humanity has invented more than two and a half thousand programming languages. The number of programming languages is constantly growing, although this process has clearly slowed down. Some languages are used only by a small number of programmers, others are known to millions of people. Some of them are highly designed to solve a certain class of problems, and some are universal. Professional programmers sometimes use in their work more than a dozen different programming languages.

Analyzing not only the statistics of the most popular programming languages in Belarus^[1], but also taking into account the languages that are studied in technical universities in our country, we have compiled a personal rating: 1 - Java, 2 - C++ and 3 - Python.

Java is actually used everywhere: in your phone, credit card, on the server, which you are currently connected to, on the browser you are currently using it. Open your Android phone and any app, they are actually written in Java programming language, with Google's Android API, which is similar to JDK.

Java plays a very big role in Financial Services. Lots of global Investment banks like Goldman Sachs, Citigroup, Barclays, Standard Chartered and other banks use Java for writing front and back office electronic trading systems, writing settlement and confirmation systems, data processing projects and several others. Java is mostly used to write server side applications, mostly without any front end. Java is also used on E-commerce and web application space. Many governments, healthcare, insurance, education, defense and others have their Java-web applications.

This language is well suited for writing applications for Android and iOS, as well as for Linux and Mac operating systems. Google, Facebook, YouTube, Amazon, Twitter, eBay, LinkedIn are written in Java. However, it is worth noting that the language itself was written in C++.

There are companies that use this language in Belarus: EPAM, IBA, Itransition, BelHard, Intetics, ISsoft, SaM Solutions, EffectiveSoft, Oxagile.

There are applications that have been written in Belarussian companies: messenger Viber is particularly written on Java, particularly on Python and C++, MAPS.ME is written on Java and C++.

C++ language appeared in 1985, but all this time was and remains in demand due to high performance, reliability, speed and variety of applications. It is one of the most powerful programming languages that provides many useful features.

Microsoft Windows and Google Chrome are the most famous examples of projects created in C++. Knowledge of C++ allows you to easily write games and complex commercial systems along with simple applications.

When the Creator of C++ Bjorn Stroustrup engaged in the task of modeling the phone calls, he discovered that the existing languages are not well suited for this, and he decided to complement the colleagues' software with classes. The first version was called "C with classes".

What's about usage? Firstly, you can write applications with the help of C++. So, such applications as Adobe Photoshop, 3Ds Max, various browsers (Chrome, Firefox) were written in C++; game programming is also available; there are also programs written for working with ports, software for scientific computing. In virtual reality, no other language can compare to C and C++. Software solutions for back-end sites such as Google, Facebook, YouTube, Amazon, twitter were written in C++.

An important feature of C++ is that because of static typing, the language is used to write software solutions that require speed, as well as demanding memory and load management.

As for weak points, it should be noted that when programming, you may encounter properties specific to low-level programming, also we can mention confusing and cumbersome syntax, inapplicability to the Web, the difficulty of finding errors.

There are many co companies that use this language in Belarus: Itransition, BelHard. This amount is not as big as for other languages, but the feature of C++ is that this language is used for so many application areas.

There are applications that have been written in Belarussian companies: World oftanks is particularly written on C++, as Viber and MAPS.ME.

According to the survey ^[2] dev.by with the participation of the largest IT-companies in Belarus, Python ranks the 3rd in the ranking of the most used programming languages. Python is also one of the first mentioned in the list ^[3] of 7 programming languages that should be studied in 2019.

Actually, Python is probably the easiest programming language. There is a minimum of service characters, dynamic typing, syntax is the most understandable. However, despite the visual simplicity, this language is one of the most powerful. In addition, Python is one of the key languages in the field of artificial intelligence, thanks to which it has gained wide popularity. It's used by many technology startups around the world.

In Belarus Python is often used in such companies as Epam, IBA, Itransition, BelHard. One of the most famous IT-products written in Python of Belarus is Word of tanks of Wargming company.

There is a quote from a GUI article in the World of Tanks: “The project uses Python as the scripting language. All that we have done in Flash, you need to connect to the game, fill in the data, process and translate user input into the real actions in the game. All this is done in Python.

The list of companies that use Python is rather long. Among them are Google, Facebook, Yahoo, NASA, RedHat, IBM, Instagram, Dropbox, Pinterest, Quora, Yandex, Mail.Ru.

Thus, Python is used in the field of Web development, system administration, research, development of embedded systems, application software, including games. However, despite its popularity and relative simplicity in writing code, this programming language is considered one of the slowest language.

Analyzing the programs of various Universities that train highly qualified specialists in the field of IT, we came to the conclusion that the above languages are the most popular for learning in our country. This is due not only to the simplicity and importance of their study, but also to the demand for knowledge in the relevant areas in IT-companies in Belarus. In particular, the BNTU first-year students of the Information Technology and Robotics Faculty learn languages such as C, C++, Python, Assembler. The students learn the basics of algorithmization and programming, have the opportunity to try themselves at different languages, so they can determine the main language for themselves, which is the closest to their interests. It is also worth remembering that there are great opportunities, which are waiting for someone who in addition to lectures and practical classes at the University do self-education.

References

- 1) Портал dev.by – медиаоб ИТ-индустрии в Беларуси и мире [Электронный ресурс] / Самые востребованные языки программирования в крупнейших ИТ-компаниях Беларуси – Режим доступ: dev.by/news/samye-vostrebovannye-yazyki-programmirovaniya-v-belarusi.
- 2) Портал dev.by – медиаоб ИТ-индустрии в Беларуси и мире [Электронный ресурс] / 7 языков программирования, которые стоит изучать в 2019 году – Режим доступ: dev.by/news/7-yazykov-programmirovaniya-kotorye-stoit-izuchat-v-2019-godu-1.