



San Carlos University of Guatemala
Faculty of Engineering
School of Sciences

Technical English: 1

Section: A

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Group Number

5

Name of the assignment:

Project: Installing an IDE

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Introduction

Nowadays there are several software applications or IDE (integrated development environment) that provide comprehensive services to computer programmers for software development. An IDE usually consists of at least a source code editor, compilation automation tools and a debugger. It is a computer application that provides comprehensive services to facilitate the developer or programmer to develop software.

One of the purposes of IDEs is to reduce the setup required to rebuild multiple development utilities, rather than providing the same set of services as a cohesive unit. Reducing that setup time can increase development productivity, in cases where learning to use an IDE is faster than manually integrating all the separate tools.

In this project we will work with an IDE, explaining what is the process of installing the IDE of choice, as well as a tutorial on how to implement programming in the IDE so that it is able to perform basic mathematical problems, among them will be explained each of its implementation (addition, subtraction, multiplication, division), where the answer is displayed in a separate window of the operation to be performed giving the possibility to close the same.



Objectives

General Objective

- To define and explain what an Ide is and how mathematical functions are implemented in such a project.

Specific objectives

- To give knowledge about what an IDE is
- To install and live a UX (user experience) to develop an explanation about the installation of an IDE.
- To give an explanation of how to use the IDE for Mathematical Functions
- Manage with clarity our IDE and without confusions the established programming language
- Understand the practical importance of such a project.



What is an IDE ?

IDE (Integrated Development Environment)

It is the digital scenario used in programming to develop applications, games... It is essential both in the field of Web Application Development (DAW) and Multiplatform Application Development (DAM). It makes the programmer's task easier, thanks to its built-in tools, such as compilers, debuggers or libraries, and this translates into increased productivity.

What are the characteristics of development environments?

Any IDE must have a series of basic characteristics that guarantee that the user experience will be satisfactory. Every IDE must have:

- **Code editor.** This is a text editor created exclusively to work with the source code of computer programs.
- **Compiler.** A program in charge of translating the instructions in source code, written in programming language, to object code, the only language that the computer understands.
- **Debugger.** A program that allows you to test and search for errors in other programs.
- **Linker.** A tool for combining different source code files into a single executable file.
- **Code refactoring.** A process in which functions such as reformatting or encapsulation are used to improve the source code.



Some of the most used IDE'S are.

Recommending the best IDE to work with is no easy task. Each programmer has their preferences and what is comfortable for one may be the opposite for another. These are some of the best IDEs for the Java language, of course you can also use another language that it supports:

•Eclipse

It is a very popular open source and widely spread IDE. It was originally developed by IBM, although it currently has a large community that supports it with a huge library of plugins. It is multiplatform (Windows, Linux and Mac) and has new versions every year. With Eclipse it is possible to develop all kinds of applications for web, desktop or mobile using Java, C, C++, JSP, perl, Python, Ruby and PHP.

Its greatest strength lies in its wizard and ability to debug errors. As you are programming, Eclipse launches recommendations that help us optimize our code to levels that border on the elegant white glove. Without a doubt an excellent choice.

•Visual Studio

The best complete IDE for developers of Python, C+, C#, .NET, C++ on Windows and many other languages. Fully loaded with a nice array of tools and features to elevate and enhance all stages of software development.

This IDE is available for both windows and mac, in addition to having free versions for students.

•NetBeans

NetBeans is another open source based integrated development environment. Personally, I love this IDE because thanks to its approach we can develop our applications as modules (as a software component). Which is extremely convenient because we can reuse our code for different projects as many times as we want without further complication. NetBeans is the official Java IDE but we can also develop in other languages such as PHP, C, C++ and even HTML 5.



Among its detractors there are those who comment that the development of a GUI on NetBeans is somewhat complicated and that it does not have the huge number of plugins and extensions that Eclipse does have, in addition to lacking native support for working with webapps (.war, .jsp, and servlets).

•IntelliJ Idea

Developed by Jet Brains it is an IDE that has two versions. The Community Edition, free to download, and the Ultimate Edition version that costs a whopping more than 500 dollars for an annual subscription, depending on the plan that we contract, but that we can try for free for 30 days if what we want is to take a look at everything that you can offer.

With IntelliJ we can program on different languages and it provides support for working with JAVA, Node JS, PHP, Python, Ruby, Sass, TypeScript, AngularJS, CoffeeScript, CSS, HTML, JavaScript, LESS, etc.

•BlueJ

I'm sure you've seen this IDE before. It is present in countless amounts of videos and tutorials on Youtube. The main reason is that at one point James Gosling, the creator of Java, said that BlueJ was one of his favorite IDEs. This triggered that suddenly in many schools and academies BlueJ will be used to teach because it was the IDE of the moment.

Like the previous IDEs on this list, it is cross-platform. We can use it on Windows, macOS and GNU/Linux and it has great documentation that makes it especially suitable for students.

Its main feature is that it allows us to generate a UML view of all the objects that make up our application.



•Xcode

Mac users who want to use a completely free IDE should give Xcode a try. It is an IDE developed for macOS by Apple itself that, in addition to allowing programming in Java, the IDE comes with a multitude of tools that allow us to develop software for iOS, macOS, tvOS, and watchOS.

Some of the important highlights of Xcode are a built-in debugger, GUI builder, and profile autocomplete. In addition to Java, Xcode provides support for AppleScript, C, C++, Objective-C, Objective-C++, Python, Ruby, and Swift.

•PyCharm

PyCharm is an Integrated Development Environment (IDE) used in computer programming, specifically for the Python programming language. It is developed by the Czech company JetBrains (formerly known as IntelliJ). It provides code analysis, a graphical debugger, an integrated unit tester, integration with version control systems (VCS), and supports web development with Django, as well as data science with Anaconda.

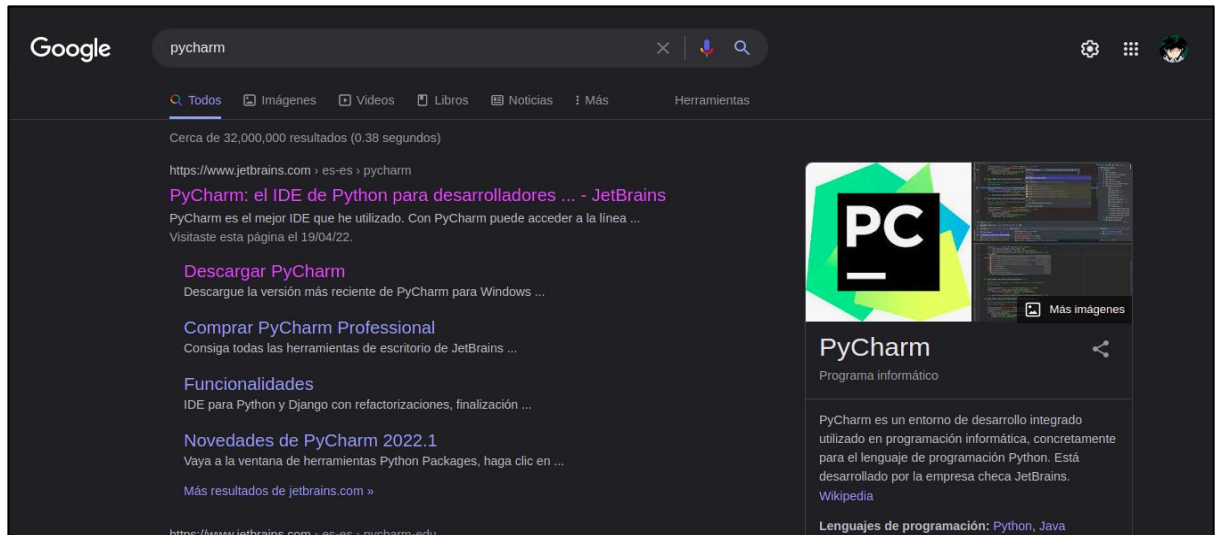
PyCharm is designed by programmers, for programmers, to provide all the tools required for productive Python development.

PyCharm is cross-platform, with versions for Windows, macOS, and Linux.



Steps to download and install the IDE used in this project.

- Google search pycharm and go to the first link



- click on the download button



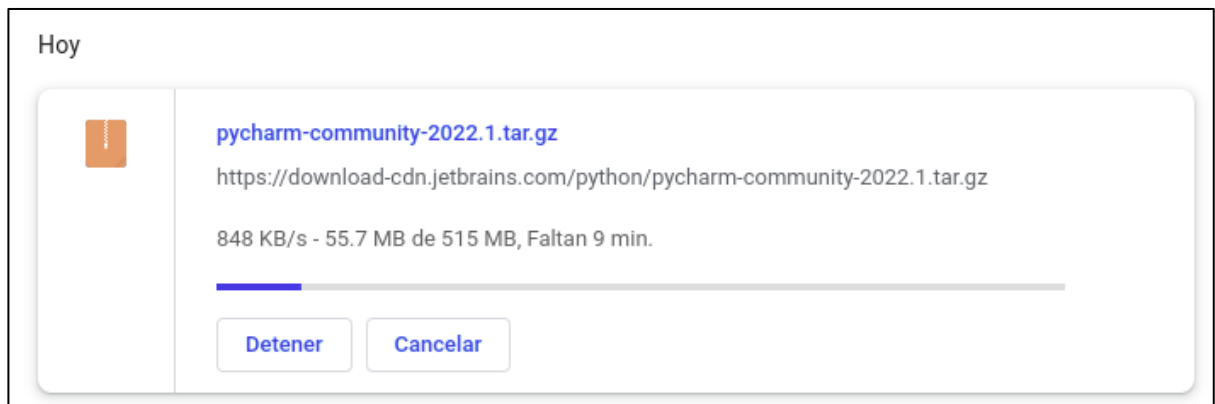


➤ click on the button to download the community version

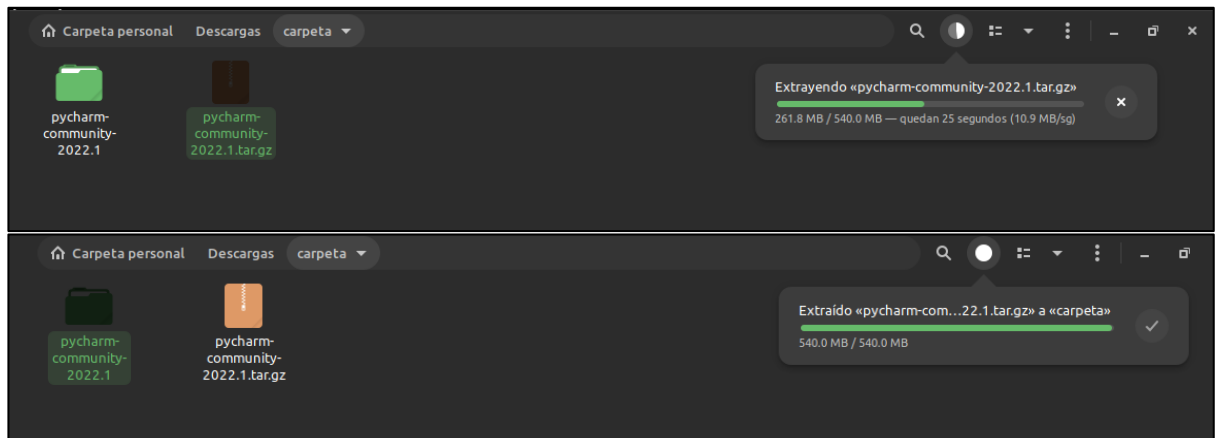
The screenshot shows the PyCharm download page on the JetBrains website. The page has a dark header with the JetBrains logo and navigation links. The main content area is white and features the PyCharm logo on the left. To the right, there's a section titled 'Descargar PyCharm' with tabs for Windows, macOS, and Linux. Under the Linux tab, there are two columns: 'Professional' and 'Community'. The 'Community' column has a 'Descargar' button. Below the buttons, there's a note about a 30-day free trial for the Professional version and that the Community version is free and open-source. On the far right, there's a vertical sidebar with the word 'Sugerencias'.

➤ wait for it to download

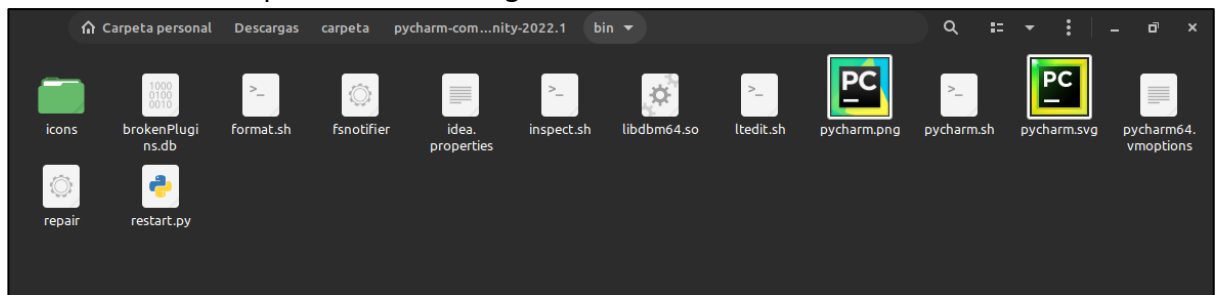
The screenshot shows the PyCharm download confirmation page. The page has a dark header with the JetBrains logo and navigation links. The main content area is white and features a large heading '¡Gracias por descargar PyCharm!' followed by a message: 'La descarga comenzará en breve. Si no es así, utilice el [enlace directo](#).' Below this, there's a note about downloading and verifying the SHA-256 checksum of the file. At the bottom, there's a section titled '¿Es nuevo en PyCharm?' and a 'Mostrar todo' button. The browser's address bar shows the URL 'pycharm-com...tar.gz'.



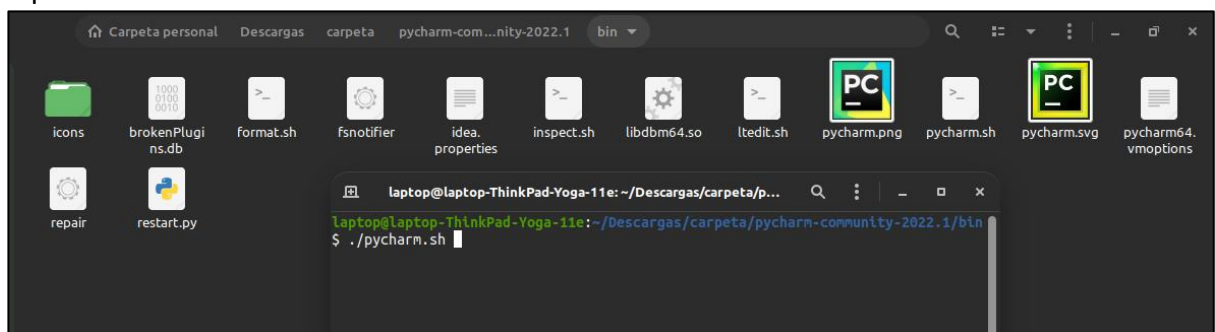
➤ Once downloaded, extract it.



➤ Enter to the route specified in the image

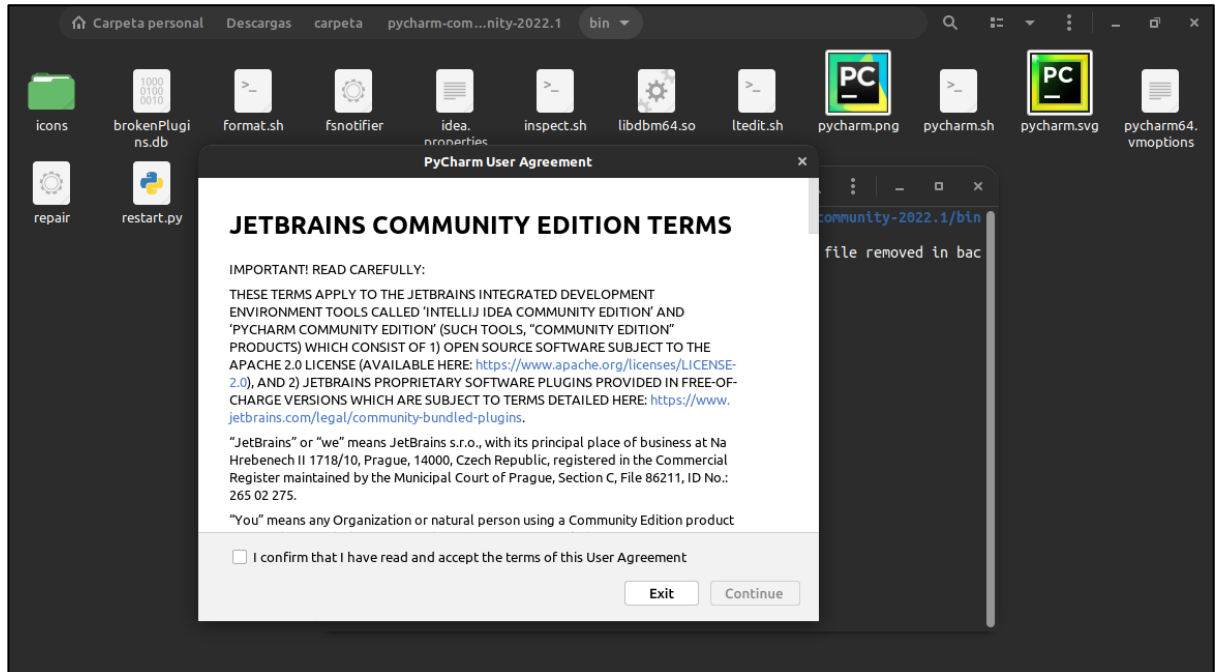


➤ Open linux terminal

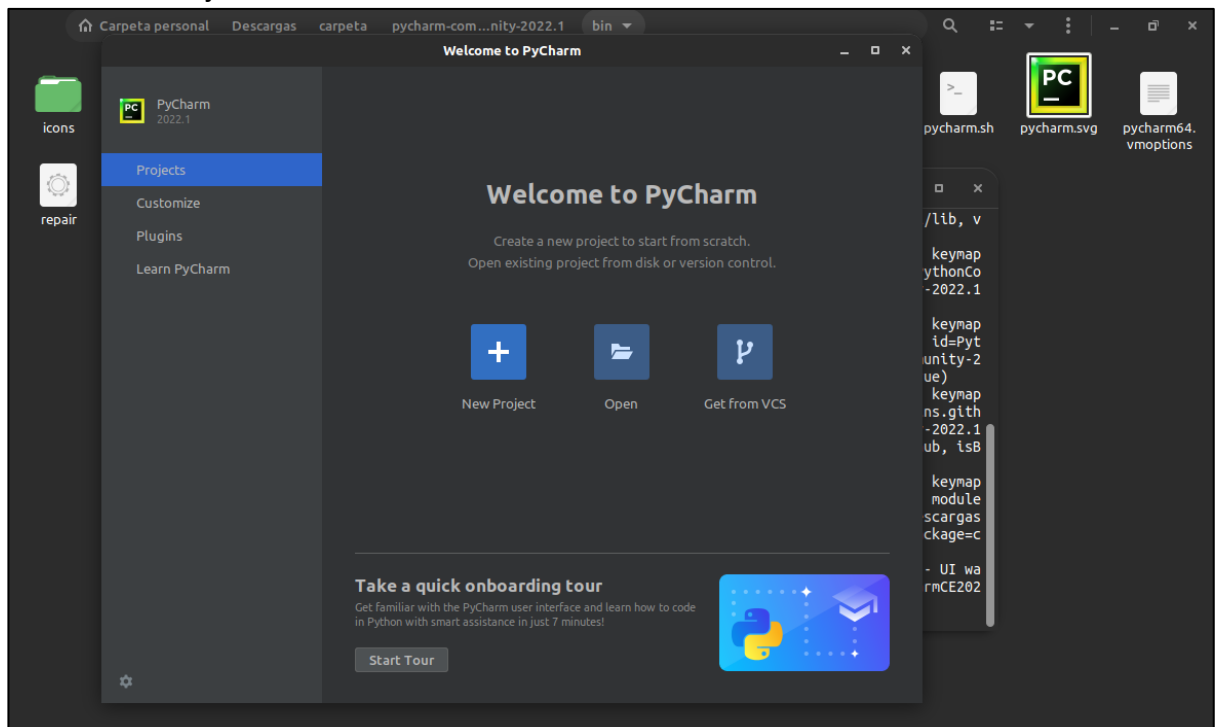




➤ Accept terms and conditions

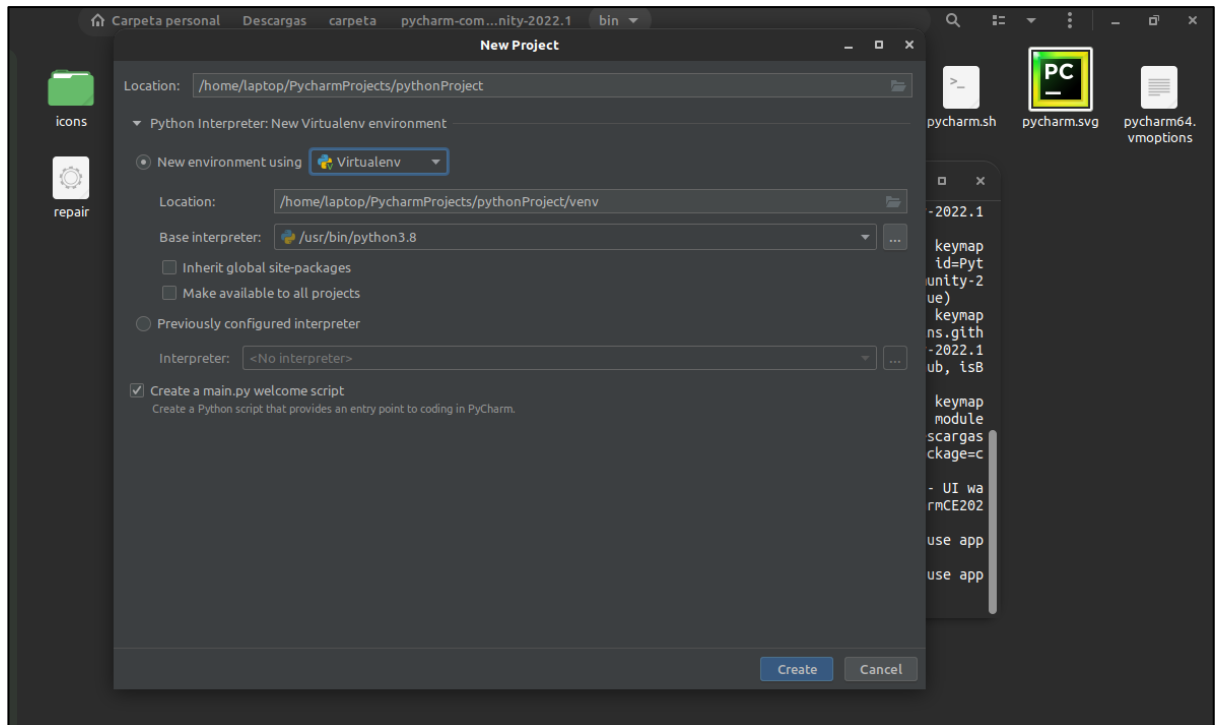


➤ Select New Project

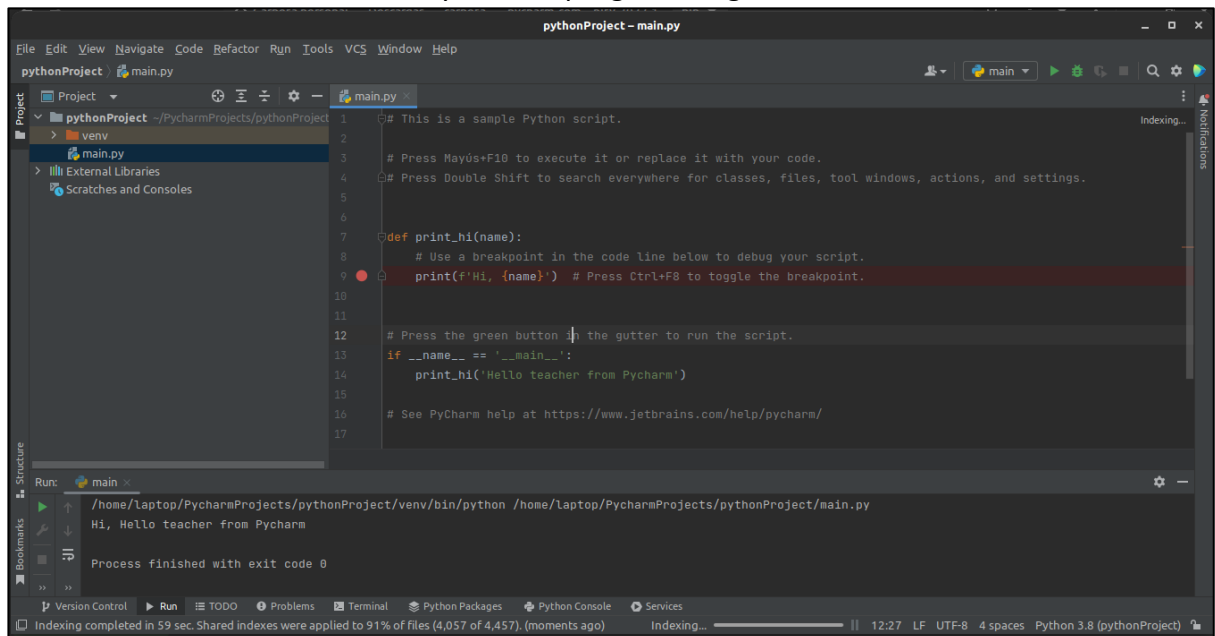




➤ Select Create



➤ Our IDE is now installed and ready to start programming.





Annexes

IDE



Integrate an editor with the tools a developer needs (debugger, compiler, etc).



Specializes in a language or technology (Java, Python, Go, Android, etc).



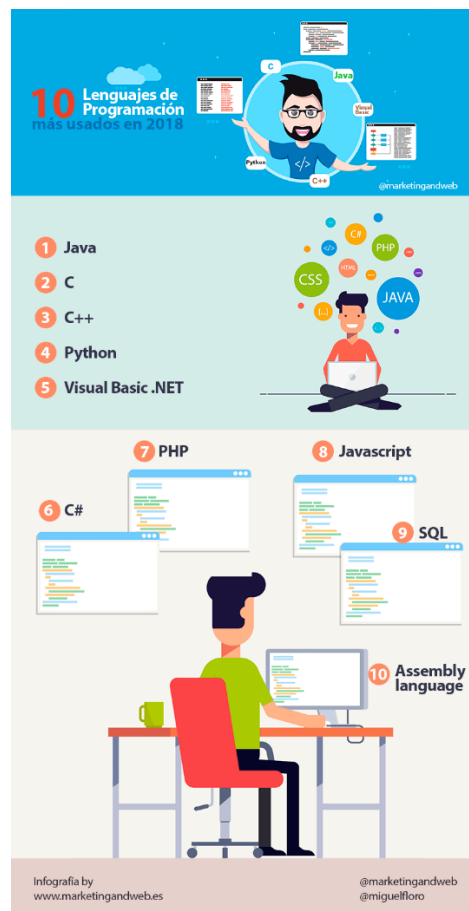
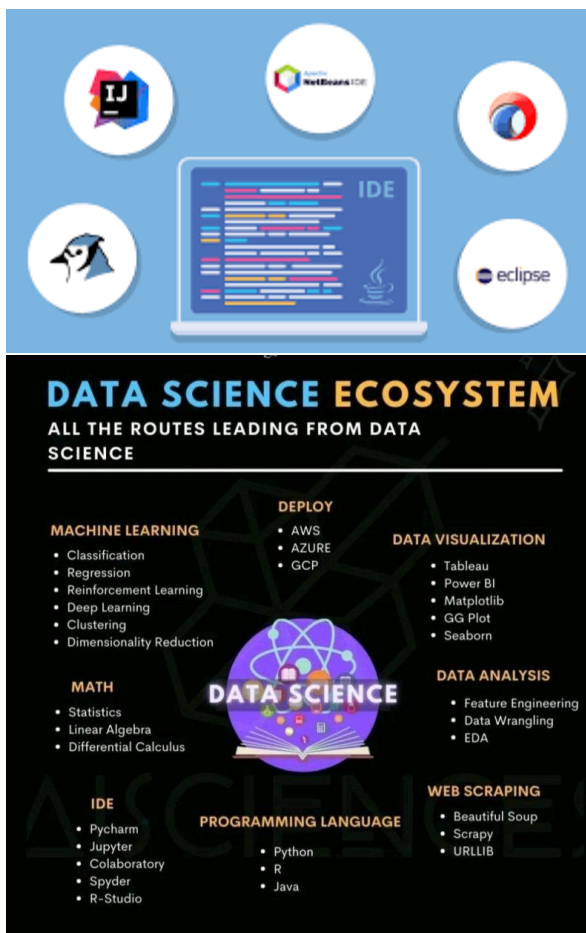
Focused on complete projects. From the first line to production release.



It brings integrated and configured tools (e.g. Android Studio brings an-Android emulator).



Example of Ides





Conclusions

- An IDE is software that makes it easy for us to create programs since we can choose the cycles we want in its environment without the need for complex code.
- To create a graphical interface of the program that is our need, just a few simple commands
- Mathematical operations just write what you want to calculate and you get the result
- The IDE, being an environment that already has integrated functions, takes away the workload from the programmer, optimizing time and the applications that the user gives him are almost unlimited.



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