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CS-210 - Programming Languages

1-5 Assignment: Comparing Programming Languages

Visual Studio is an integrated development environment (IDE) used to develop various programs such as websites and mobile apps. When using C++ and Visual Studio, there are mixed feelings due to being a first-time user of Visual Studio. When creating code, the auto-suggestion box has many different reference features. The features are beneficial for first-time users because it provides a list of all actions possible that can be broken down into sections such as variables, functions, types, macros, enums, and namespace. Another benefit of using Visual Studio under C++ is the collapse of each code block. To clarify the coding, users can expand or collapse code sections to easier analyze during writing and debugging. However, with these benefits, there is a drawback due to the large volume of features available in the program. Due to this, if not handled properly, users may install the wrong content or may not install all the correct elements to create the code making it less efficient. Visual Studio attempts to create a user-friendly environment by providing as many features as possible, but depending on the programmer, it can make them feel overwhelmed.

PyCharm is another type of IDE that programmers can use to create websites and other applications. When using PyCharm, there are a lot of benefits and drawbacks to this program. The most beneficial is syntax and error maintenance. PyCharm uses color coordination to specify the functions used within the code but also corrects spelling and other minor errors. For example, if the word damaged were miswritten under a print output, there would be a red line, but it would not be caught in Visual Studio. Also, when using PyCharm, it automatically saves changes made in the file. All the work will be held in an emergency blackout, whereas Visual Studio does not offer this option. The biggest flaw of PyCharm is the limit of languages that can be applied to the program. Unfortunately, PyCharm can only support Python, which restricts the number of things it can do. With Visual Studio, this program has a lot of languages under one roof, making the interchange of languages much more efficient. PyCharm is not multi-language compatible for programmers; however, it specializes in teaching users how to execute codes in Python.

The benefit of being able to code in multiple coding languages and compilers allow users to be an efficient and versatile developer. All programming languages have unique quirks and features requiring different tools to solve the problem. When programmers can read multiple languages, it gives an advantage and prepares programmers to solve challenges creatively. The job industry is constantly changing, and when understanding numerous languages, one’s skills will never be outdated. If the programmer can adapt to any environment, the programmer can provide more career opportunities compared to a programmer limited to one language. Besides better career opportunities, this enhances one’s logical and mathematical skills. Learning mathematics builds a structured base for programmers to understand syntax represented by commands, variables, and punctuation. When programmers know more than one language, it helps the individual to become a jack of all trades in business industries.