

# Which Environment Is More Suitable For Novice Programmers: Editor/Command Line/Console Environment vs. Integrated Development Environment?

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## Abstract

In the field of computer science, first year students are expected to learn and master the skill of programming in order to be successful. However, lack of basic programming skills has intimidated many students and in many cases driven some of them away from Computer Science. In an attempt to improve confidence in these students, many computer science departments have adopted integrated development environments (IDEs), instead of command line environments, because of their user-friendly design. The main question or hypothesis is whether *an IDE is a better (more suitable) learning environment compared to a command line/console for novice programmers to use*. In an attempt to address this question, the term, suitability, is defined based on four attributes: efficiency, grasping the concepts of programming, engaging, and ease of use (usability). Some of these attributes also overlap with each other. The intent of this study is to measure whether the Microsoft Visual Studio IDE is more efficient, helps students grasp the concepts of programming more effectively, is more engaging/enjoyable, and has a better usability than the vi/vim command line environment.