

Sample essay on software technology exploration and critique

[Education](#), [Discipline](#)



Euclidean geometry is an important sub-discipline of mathematics, as it covers all scopes encompassing distance and theories justified by accurate calculations. Taxicab geometry has become an important sub-discipline of geometry as it applies an extensive and an analytic approach of determining distance between two different points. Many elements of mathematics are present in computer science, such as the principles of basic operations, and selection of numbers - which are present in technologies that made an influence in every facet of human life. In the simple program compiled, a user could choose from the three following options: (1) to begin a game involving random selection of numbers, (2) to execute a program that involves computation of distance using different concepts of geometry, and (3) a program that computes the slope between two different points.

The first program, in its larger context, involves the use of random numbers. Random numbers are also present in many computer-based and logical applications. Under computer science terminologies, it is known as the concept of random number generation. Random number generation involves the use of preset numbers, which could be customized according to the specific needs of any software/application. In many simulation-based applications, the concept of random number generation is implemented in order to determine what instance will occur at a certain time. The second and third programs involve the use of a default formula in computing the distance between points and slopes respectively. Both programs could apply to a context where the computation of selected geometrical concepts becomes automated. Like the random number generator, the calculator is important in the aspect of computer science, because it ensures that

computations between different integers are as accurate as possible.

The purpose of this program is to serve as a simple machine where the user could play with the random occurrences in variable selection. The other purpose of this program is to calculate designated formulas of distance. The program widely revolves on usage of integers and solving designated measurements. Each segment for the program involves three different mathematical operations, focusing more on the structure conditional statements.

What are the underlying strengths present a program selected for analysis?

First, accuracy is ensured when computing the points of slope and the distance of coordinates. The memory architecture (bits and bytes) of computers uses binary mathematics and is capable of reading very large numbers as integers accurately. Moreover, programs involving numerical computations can be customized to estimation at a certain decimal value. Second, it provides convenience for those who need not apply the designated formulas in computing values. Majority of the mathematical formulas are available as references. Therefore, this program could apply for practical purposes in solving the answers needed.

What are the perceived weaknesses within the program syntax used? First is that the program might not be that practical for other purposes. The programming syntax may be unique in terms of structure and output, and that existing formulas and designated calculators for a specific formula are available as applications. Thus, the program may be redundant in terms of practical use. Second, while calculators are helpful for solving complex formulas, they tend to be a source of inconvenience at times, especially

when one does not apply the manual computations in solving mathematical problems. Another perceived weakness is that the descriptive theoretical concept behind the formula is not explained in the program selected. What are explained in the program are just plain instructions on what the user should enter. Thus, the program is only a mere tool of convenience.

What could be done to use this simple software in the future? There are endless possibilities for the selected software. First, is to build upon the foundation set within the simple program. It means that prototypical and aesthetical improvements should come along the way, and that will involve planning and mastering other skills required to develop a fully functioning program. If the abacus were the basis of many supercomputers today, then a simple program could be used as a working model in the potential evolution of calculators. Second is to remodel the selected program as an educational tool. If the concepts that discuss a mathematical or computer science theory were included in the program, then the user would be guided properly. If the instructions are included, and it is not just a mere phrase of "Enter number", then there is a possibility that the students would have a clearer perspective of the mathematical concept he was trying to learn.

Why should this program focus on the two improvements to improve software usability? Mathematical concepts involve procedural, numerical, and technical aspects of understanding a certain idea. Mathematical concepts may be explained in a descriptive pattern, but it is best to go with the instructional process if the objective of understanding the theory that is in effect. The program could work very well as an instructional guide for explaining formula-based theorem, and may serve well as a tutoring tool for

those who are learning advanced mathematics. The program could also be used as a tool for developing state-of-the-art, or artificially intelligent calculators.