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Student's Name:

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Course

Date

Heuristics is an approach to a problem solving and a discovery that applies a practical method which is not a guarantee of an optimal or perfect but significant for the immediate objectives. In scenarios where obtaining an optimal solution is impractical, the heuristics can solve the problem quickly to reach a satisfactory solution (Martí et al. 213). It can be a mental shortcut that eases the cognitive aid of decision-making processes. In computer science, the technique is formulated to solve problems quickly as opposed to classic methods which may be too slow or for obtaining an approximate solution as opposed to classic methods which are unable to find any exact solution. This can be attained through training completeness, precision for speed and accuracy.

During the process of programming, the programmers have an objective to design the most effective algorithms which can attain different tasks. These processes include sorting of numbers or complex tasks including processing of video clips and images. Due to acceptance of the wide range of inputs, a single algorithm might perform well in some cases while not performing well in some. For instance, GIF image compression algorithm will be perfect for small pictures possessing fewer colors as opposed JPEG compression for large image possessing several colors. If one is only dealing with small images without a wide range of colors, then GIF is all the person will need. There will be no worries concerning the large and colorful images as there is no point in optimizing the algorithms needed for such algorithms. Moreover, most computer programmers normally apply

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algorithms that solve the problems well in several scenarios even though they might be inefficient in some uncommon scenarios (Goldengorin et al. 81).

There are several types of projects that heuristics can be applied to obtain optimum results. It can be applied in virus scanning; virus scanners use heuristic instructions in detecting viruses and malware. Heuristic scanning studies the codes and behavior pattern in common in a group of related class with different set rules. Where a file or an executing process is discovered to contain matching code arrangements or to perform the set of activities the scanner detects infection in the file. Heuristic scanning works against polymorphic viruses which are hard to be detected by simple string methods of scanning. It also can detect future viruses without relying on detection from somewhere else, submitted to the developer of the virus scanner, analyzed and an updated scanner is provided to the users.

Without having been mathematically proven to satisfy a given set of requirements heuristics can be applied in statistical analysis to help approximate the probability of negative outcomes. Solving a search or a knapsack problem by use of heuristic is essential to check if the heuristic is justifiable (Michalewicz et al. 24). On the other hand, a heuristic search generates and modifies known structures and symbols till the created solution matches the structure of the solution. Heuristic search studies what pathway to pursue and which not by examining how the current step is proximate to the solution. Heuristic search is selective to each diagnosis point, as it picks pathways that are close to the results.

The heuristic process is cost-effective in that it can be in any development phase, it is intuitive as it is easy to use, the heuristic evaluation doesn't require planning before evaluation.

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Nonetheless, heuristics are not suitable to complex interfaces as it uses minimal amounts of evaluation.

Heuristics is a quick and accurate problem-solving process which is designed by programmers to meet several tasks. Due to their proven reliability, cost-effectiveness and its ease understanding heuristics are applied in virus scanning, solving statistical problems and also it is applied in heuristic searches whereby It provides a quick solution.

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Works Cited

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