Tecnológico de Monterrey

Competency Evidence

Programming of data structures

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15/11/2022

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There are many ways to structure data in a way that can be efficient for the majority of the case studies. In our case, in order to sort the information of our evidence we used the method of graphs which was instructed by our professors to do. To give a brief explanation of what graphs are in C++, we can describe them as a non-linear structure that consists of elements such as edges and vertices. This structure can be illustrated as a graph and consists of connections of values.

Some disadvantages of using this method of arrangement would be that its complexity can be difficult to some programmers because it uses a lot of pointers which can take some time to arrange and code. Also another problem according to geeks for geeks is that if the graph is represented by the programmer as an adjacency matrix then it won't follow the protocol of allowing parallel edges and therefore cause the multiplication of the graph to be difficult.

On the other hand some advantages could be that it is a short path to find the neighbors of the vertices or also known as nodes. Another advantage would be that it helps organize data in a way that can be simple for the programmer and the system to understand. With these comparisons we can infer that the graphs structure that is used on the evidence is very efficient in the way we organize our evidence. Also with the structure of graphs we can also see that the adjacency matrix is a simple way of demonstrating the data to the user. As mentioned before an advantage of the adjacency matrix is that it is a simple manner to show the data on the system and a disadvantage is that it consumes a lot of space compared to the other methods.

Jesus Fong

The graph is a C++ method that allows us to arrange our values given in the evidence by the professors. There are various disadvantages and advantages of using this method of arranging this type of data. But to give a brief introduction to the method, graphs is a C++ method that uses an ordering system using nodes or also known as vertices and edges to display to the user. But to be more specific this type of C++ method is mostly used to represent networks in a system.

This type of method is used in big companies like Facebook and linkedIn. Now to analyze this type of method, there are some advantages and disadvantages of using this method for our evidence.

To start with disadvantages this program can have a large amount of memory which increases the complexity of the program compared to the other ones that can be used for the arrangement of the data in the evidence. Another downside is that it uses a lot of pointers which can also increase the complexity of the program besides the use of large memory.

The advantages of the program is that it's relatively simple due to the fact that it is using graphs to find the shortest path. Also the graphs method implements the content we learned in class like the DFS and the BFS. Finally another important advantage is that since this method is a non-linear structure it makes the process easy to understand. With this analysis of the graphs method we can conclude that this method is useful for the arrangement of the values inside of the txt. The evidence will be easily arranged and executed due to the non-linear structure of the arranging of the method.