Laboratory practice No. 2: Brute Force

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3) Practice for final project defense presentation

3.1 The data structure used at that algorithm was a HashMap, that has a long(type) Key that was each vertex ID that pointed a Pair of an object (the vertex), and a linked list of the edges of that vertex. The algorithm roams above each vertex beginning from the first one and ending at the same vertex, asking in the successors which one has less distance, and doing that process with the adjacent vertex of each one.

3.2 The complexity of that method is $O(V)O(E!)$ because it travel above each vertex and above each edge that implicates the vertex we are studying.

3.3 the graph of 50 people is a connected graph, so the code would spend time for each vertex and for each edge would be 50*50! And that is a very big number

3.4 The data structure used at this algorithm are an ArrayList of Pairs of Integers, because in this we store the column and the row where the bad boxes are located. This algorithm works by verifying the location of the queens without being adjacent, and taking into account the location of the null squares in order to tell the possible solutions that may occur when the program is running.

3.5 The complexity of the principal method about nQueens problem are: $O(n^2)$

3.6 The variable n means the number of queens

4) *Practice for midterms*

4.1.1 actual>máximo
4.1.2 $O(n^2)$
4.2.1 arr, k+1
4.2.2 $O(n^2)$
4.3.1 i-j
4.3.2 txt.length()-1
4.3.3 $O(nm)$
4.4.1 temp%10
4.4.2 B) $O(|N-M|).\log10 M$
4.5.1 j=i+1

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4.5.2 *right==left*

5) Recommended reading (optional)

BRUTE FORCE

Is a straightforward approach to solving a problema, based on the problema statement and definitions of the concepts involved.

Image took from: https://bit.ly/2GCBmTb

Image took from: https://bit.ly/2GqPMGq

The adventages of use these algorithms are:

Unlike some of the other strategies, brute force is applicable to a very a very wide variety of problems.	For some important problems the brute-force approach yields reasonable algorithms of at least some practical value with no limitation on instance size.	The expense of designing a more efficient algorithm may be unjustifiable if only a few instances of a problem need to be solved and a brute-force alforithm can solve those instances with acceptable speed.

Some algorithms in which we can use brute force:

Selection Sort	Bubble Sort	Sequential Search	Closest-Pair	String Matching

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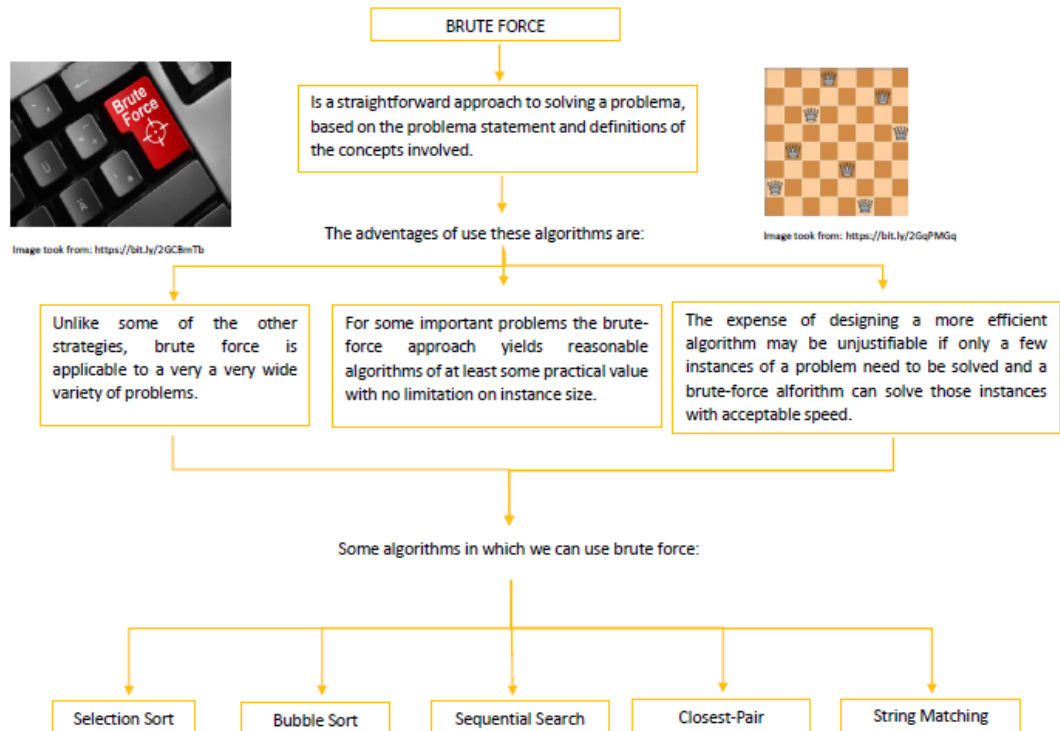Email: mtorobe@eafit.edu.co | Office: Building 19 – 627
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