Laboratory practice No. 2: Brute Force or Exhaustive search

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1) Code uploaded to GitHub

1.a. Implementation of a Brute Force Algorithm that finds a solution to the N Queen Problem

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2) Online Exercise

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3) Project-type Questions

3.a. Other than brute force, what are other computational techniques that can be used to solve the N Queens Problem?

– Another technique to solve the N Queens Problem is to use **Backtracking** which is a standard problem solving technique based on recursion. This technique aims to optimize the process by considering more constraints.

3.b. Times Table

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3.c. Explain in 3 to 6 lines the problem 2.

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Page 2 de 3
ST0247
Data Structures
2

3.d. **Explain what data structures you used to solve 2.**

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3.e. **Calculate the complexity for 2.**

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3.f. **What do the variables 'n' and 'm' mean in 3.5?**

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4) **Practice Test Problems**

4.a. **MAXIMUM SUB-ARRAY**

4.1.1 Line 7

```
if (actual >= maximo)
```

4.1.2 Worst case scenario

```
O(n^2)
```

4.b. **SORTING ALGORITHMS**

4.2.1 Line

```
ordenar(arr, k+1);
```

4.2.2 Worst case scenario

```
O(n!)
```

4.c. **PATTERNS IN TEXT**

4.3.1 Line 12

```
if(j == m) return i - j;
```

4.3.2 Line 13

```
else return txt.length();
```

4.3.3 Worst case scenario

```
O(n * m)
```

4.d. **BRUTE FORCE EXERCISE**

4.4.1   Line 8

```
int rem = temp mod 10;
```

4.4.2   Complexity

```
O(|N - M|) x log_{10} M
```