Third written examination of
Algoritmos e Estruturas de Dados
November 9, 2015   Duration: no more than 30 minutes

Name:

Student number:

4.0   **1:** Explain how a binary search is performed.
Answer:

3.0   **2:** The binary search algorithm is normaly used to find an exact match. Explain how the algorithm can be modified so that if returns the index of an exact match, or, if no match exists, so that it returns the index of the largest array element smaller than the value to be matched (or -1 if the value to be matched is smaller than the first array element).
Answer:

3.0 **3:** How is the information organized in a min-heap?
Answer:

3.0 **4:** What operations are supported in a priority queue?
Answer:

7.0 **5:** Explain what a hash table is and explain the main differences between its two variants (open addressing and chaining).
Answer: