

Third written examination of
Algoritmos e Estruturas de Dados

November 7, 2016

Duration: no more than 40 minutes

Name:

Student number:

5.0 **1:** What is the purpose of a hash function? Give an example of a hash function.

Answer:

6.0 **2:** Describe how to search for information in a array with n data items. Assume that the data items are stored in the array in an arbitrary order (that is, **unsorted**). On average how long does it take to locate a specific data item? How can the search time be improved if some data items are searched for more often than others?

Answer:

4.0 **3:** Use the bubble sort algorithm to sort the integers 6,3,7,4,1,5.

Answer:

5.0 **4:** Compare two sorting algorithms of your choice in terms of

1. computational complexity
2. best input case
3. worst input case

Answer: