# Hash Tables – Exercises

Alexandre David

## 1 Direct-access tables

1. Exercise 11.1-1.
2. Exercise 11.1-2.

## 2 Hash tables

1. Exercise 11.2-1.

## 3 Practice

Define the C data structures and C-functions (pseudo-code if you prefer) to implement a dynamic hash table, *optimizing* it given the fact that you have a good hash function that performs well for any size of the hash table, i.e., you do not need the size to be a prime number. Hint: power of 2. You need to define the functions to resize the hash table, insert a new element, delete an element, and test for membership. Note: keep average length of the chained lists equal to 1 and save memory as much as possible (assuming that your hash function distributes the elements uniformly).