

Exercise No. 10
Algorithms and Methods for Distributed Storage
Winter 2008/2009

Exercise 11 *DHHT - The linear method*

Given a set of nodes $\{A, B, C, D\}$ with the following weights w_n and hash values $h(n)$:

node n	w_n	$h(n)$
A	1	0.1
B	2	0.4
C	0.5	0.6
D	1	0.7

Consider the following set of data elements i with their hash values $h(i)$:

i	1	2	3	4	5	6	7	8
h_i	0.03	0.24	0.34	0.49	0.58	0.76	0.82	0.91

- Determine the interval length for each node. What is the probability for each node to receive a data element?
- Determine the height of each data element. Which elements are assigned to which node?
- Assume the weight of node B is changed to 3. Which data elements are reassigned?
- Which other DHHT methods do you know?