# Homework-9

## Ali Valiyev

### January 2021

# 1 Homework solution

Task 1

Question: Suppose these strings are inserted into a 14-bucket hash table in the order shown above. Each string's bucket is its hash code modulo 14. If collisions occur, each bucket is implemented as a simple unsorted map, with new items added to the end of the list. Show the contents of all buckets after these strings are inserted. Give each bucket as a bucket number followed by a list of strings, with the head of the list at the left.

Solution:

0: (-)

1: and, of, the

2: (-)

3: (-)

4: (-)

5: in

6: (-)

7: (-)

8: (-)

9: that

10: is

11: it, to

12: (-)

13: you, a

Task 2

Question: Suppose these strings are inserted into a 14-bucket hash table in the order shown. Each string's initial bucket is its hash code modulo 14. If collisions occur, use linear probing with a step size of 1. Show the contents of all buckets after these strings are inserted. Give each bucket as a bucket number followed by the string in that bucket, if any.

Solution:

0: you

1: the

2: of

3: and

4: (-)

5: in

6: (-)

7: (-)

8: (-)

9: that

10: is

11: to

12: it

13: a