

# Abstract Data Types: Hash Tables

# A4

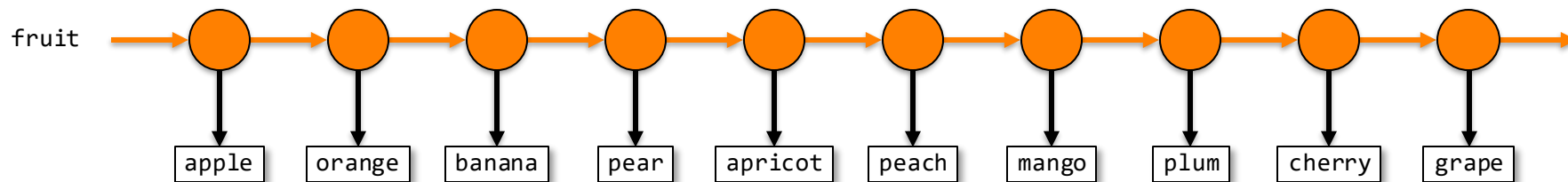
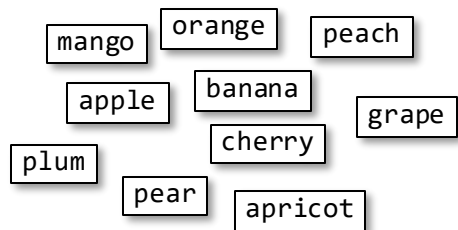
Hash Table  
Implementation of a Set 1

## Hash Tables

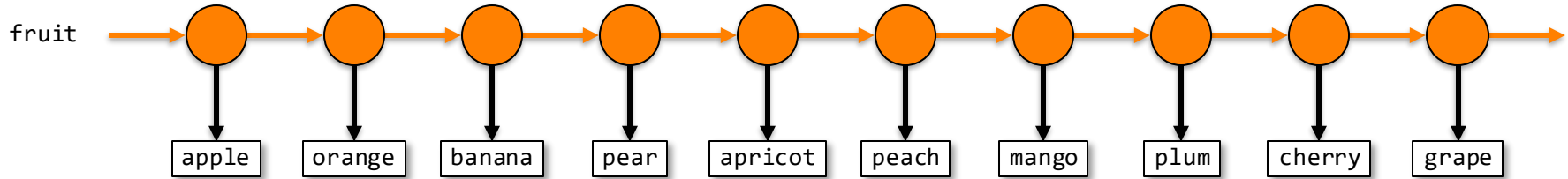
A hash table stores (*key, value*) pairs, using a hash function to map a key into a table. Key challenges are: a) dealing with hash collisions, and b) dealing with load (how big to make the table).

Two broad approaches:

- Separate chaining
  - Hash table entries are lists. (*key, values*) are in lists.
- Open addressing
  - Hash table entries are (*key, value*) pairs.
  - Collisions resolved by *probing* – e.g. find next empty slot



```
fruit.add("apple")
```



```
fruit.contains("mango")
```

