

Abstract Data Types: Hash Tables

A4

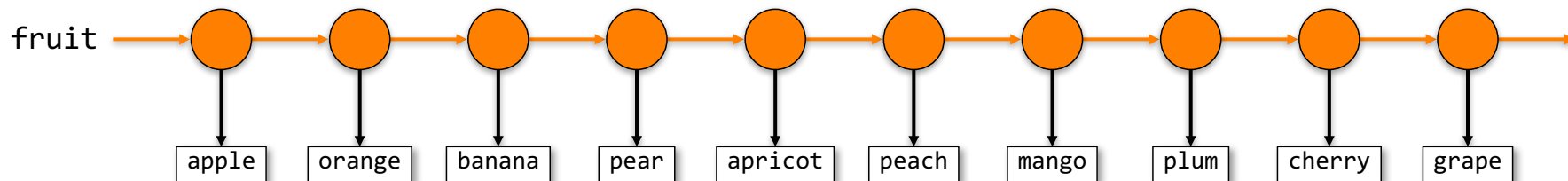
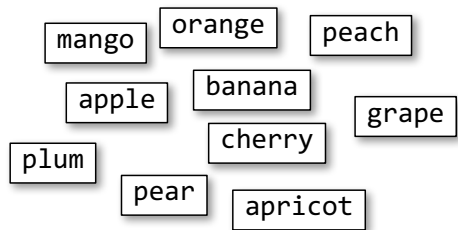
Hash Table
Implementation of a Set 1

Hash Tables

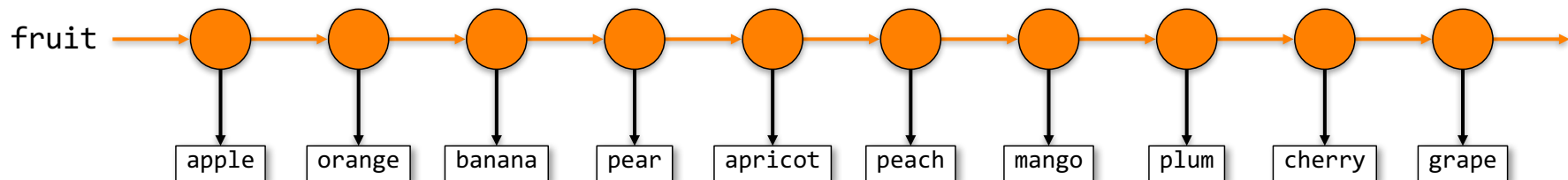
Store a $(key, value)$ pair, using a hash function to map a key into a table. Key challenges are: a) dealing with hash collisions and dealing with load (how big to make the table).

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 entry slot



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



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

