

In C++, whenever we need to store key-value pairs, we use the STL: map. $p \rightarrow \text{first}$ $p \rightarrow \text{second}$

Two types: \rightarrow (1) ordered-map $\langle k, v \rangle \rightarrow$ pair
map \rightarrow Alphabetical / descending

HashMap \leftarrow (2) unordered-map $\langle k, v \rangle$
 \rightarrow Hashed Order *** Java

HashTable $\rightarrow \langle k, v \rangle$ Pair java.util
 \rightarrow Array of Lists (Initial Size = 11)

HashTable \langle Integer, String \rangle ht;

ht.put (106, "Yashwanth"); (3)

ht.put (117, "Likith"); (2)

ht.put (128, "Bannu"); (1)

ht.put (102, "Sunil"); (4)

ht.put (100, "Pragwal"); (5)

Same Index Multiple Values \rightarrow Hash Collision

Display \rightarrow :
T \rightarrow B
R \rightarrow L

10			
9			
8			
7	106, Y (3)	117, L (2)	128, R (1)
6			
5			
4			
3	102, S (4)		
2			
1	100, P (5)		
0			

Lists \rightarrow forward-list \rightarrow Singly linked list \rightarrow
list \leftarrow

:: scope resolution
operator

* forward traversal

feedback: \rightarrow [12095]