CSI 503 – Data Structures and Algorithms
Pseudocode for Hashing Algorithms

(a) Direct Address Table Operations:

Insert (T, x)
// Insert record pointed to by x into T.
1. T[key[x]] = x

Delete (T, x)
// Delete record pointed to by x from T.
1. T[key[x]] = NULL

Search (T, k)
// Return a pointer to the record with key = k if it is
// in T; return NULL otherwise.
1. return T[k]

(b) Outlines for Hashing with Chaining:

Insert (T, x)
// Insert record pointed to by x into T.
1. r = h(key[x])
2. Insert the record at the head of the list pointed to by T[r].

Delete (T, x)
// Delete record pointed to by x from T.
1. r = h(key[x])
2. Delete the record pointed to by x from the list pointed to by T[r].

Search (T, k)
// Return a pointer to the record with key = k if it is
// in T; return NULL otherwise.
1. r = h(key[x])
2. Search for the record with key k in the list pointed to by T[r].