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# Advanced Data Structures

Batch - 5

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IBMI & CSIS

Program ~ 8

table size initialized to some constant.

Structure Hash node created to declare key  $k$  and value  $v$ .

Create class Hashmap  $\rightarrow$

Create a hashtable with constructor & initialize it to NULL

```
create Hashfunc (int k) {  
    returns  $k \% \text{tablesize}$ 
```

```
}
```

```
insert (int k, int v) {
```

// insert value  $v$  at key  $k$ .

```
    h = Hashfunc(k);
```

```
    loop until table[h] is NULL or  
        table[h]  $\rightarrow k$  is  $k$ 
```

```
        h = Hashfunc(h+1);
```

```
}
```

```
if table[h] is Not equal to NULL  
    delete it
```

```
& create a new entry as table[h] = new HashNode(k, v)
```

```
int searchkey (int k) {
```

// searching element at key  $k$

```
    get hash value by calling  
    hash function on  $k = h$ 
```

```
    loop until table[h] is NULL or table[h]  $\rightarrow k$   
        = key & update h  
        h = Hashfunc(h+1)
```

```
if table[h]  $\neq$  NULL
```

```
    returns -1
```

// Not found

```
else
```

```
    returns value i.e table[h]  $\rightarrow v$ 
```

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```
void deletekey (int k) {  
    get the value & loop you encounter  
    table[h] as NULL  
    if table[h] → k == k,  
        break;  
    else  
        update h = Hashfunc(h+1)  
    if table[h] == NULL  
        / no element found at key.  
    else  
        delete table[h]
```

Retyped