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IBM18CS088
Lab9 : Dictionary using Hashing

```
#include <bits/stdc++.h>
using namespace std;

class HashTable
{ public: list<>
  vector<int> hash; vector<list<pair<int,int>>> hash;
    int max_index;

    int hashValue(int key);

    int getValue(int key);
    void insert(int key,int val)
    HashTable(int max_val)

};

HashTable::HashTable(int max_index)
{   this.max_index = max_index;
    this.hash= vector<list<pair<int,int>>>(max_index);

};

int HashTable::hashValue(int key)
{       return key% max_index;
};

int HashTable::getValue(int key)
{       int hashval = hashValue(key);
```

```
for(auto it = hash.begin(); it != hash.end(); it++)
    {     if(*it == key)
            if(it->first == key) return it->second;
    }
    return -1;
}

void insert(int key, int value)
{
    int hashval = hashValue(key);
    hash[hashval].push_back({key,value});
}

void printHash()
{
    for(int i=0;i<max_size;i++)
    {
        cout<<i<<":";
        for(auto it = hash[i].begin(); it != hash[i].end(); it++)
        {
            cout<<it->first<<","<<it->second<<"  ";
        }
        cout<<endl;
    }
}
```