LAB-9.

ADS

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```
const int T_S = 200;
class HashTableEntry {
    public:
        int k;
        int v;
        HashTableEntry(int k, int v) {
            this->k = k;
            this->v = v;
        }
};
class HashmapTable {
    private:
        HashTableEntry **t;
    public:
        HashmapTable() {
            t = new HashTableEntry * [T_S];
            for (int i=0; i<T_S; i++) {
                t[i] = NULL;
            }
        }
        int HashFunc(int k) {
            return k % T_S;
        }
        void Insert(int k, int v) {
            int h = HashFunc(k);
            while (t[h] != NULL && t[h]->k != k) {
                h = HashFunc(h+1);
            }
            if (t[h] != NULL)
                delete t[h];
            t[h] = new HashTableEntry(k,v);
        }
```

```
int SearchKey (int k) {
    int h = HashFunc(k);
    while (t[h] != NULL && t[h] -> k != k) {
        h = HashFunc(h+1);
    }
    if (t[h] == NULL)
        return -1;
    else
        return t[h] -> v;
}
void Remove (int k) {
    int h = HashFunc(k);
    while (t[h] != NULL) {
        if (t[h] -> k == k)
            break;
        h = HashFunc(h+1);
    }
    if (t[h] == NULL) {
        cout << "No Element found at key " << k << endl;
        return;
    }
    else {
        delete t[h];
    }
    cout << "Element Deleted " << endl;
}
~HashMapTable() {
    for (int i=0; i<tsize; i++) {
        if (t[i] != NULL)
            delete t[i];
        delete [] t;
    }
};
```