**BÁO CÁO PROJECT 1**

**WEEK 3**

Nội dung

[**Hoàn Thành 4/4** 2](#_Toc181109241)

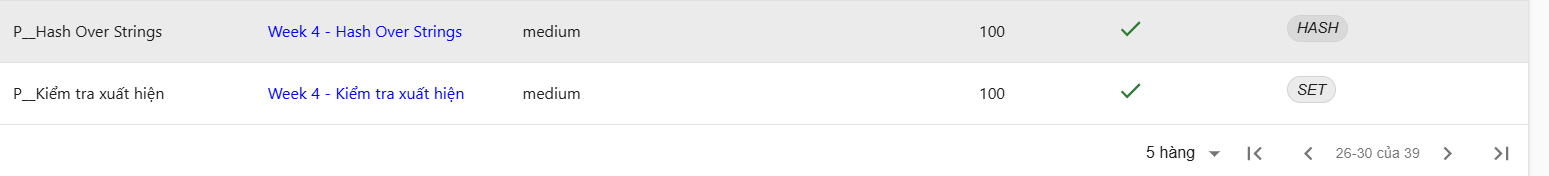
[**Problem: Week 4 HASH\_FUNCTION\_STRING** 2](#_Toc181109242)

[**Problem: Week 4 ipmac-set-exist** 4](#_Toc181109243)

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# **Hoàn Thành 4/4**



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# **Problem: Week 4** [**HASH\_FUNCTION\_STRING**](https://hustack.soict.ai/programming-contest/student-view-contest-problem-detail/PROJECT_1_2024_1/HASH_FUNCTION_STRING)

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Description automatically generated

#include <bits/stdc++.h>

#define Task "bai1"

#define int long long

#define maxn 1000005

using namespace std;

int n, a[maxn];

map<int, int> dd;

int T, MOD;

main()

{

ios::sync\_with\_stdio(false);

cin.tie(0);

cout.tie(0);

if (fopen(Task".inp", "r"))

{

freopen(Task".inp", "r", stdin);

freopen(Task".out", "w", stdout);

}

cin >> T >> MOD;

while (T--)

{

string s;

cin >> s;

int ans = 0;

int n = s.length();

int hashh = 1;

for(int i = n - 1; i >= 0; i--)

{

ans = (ans + s[i] \* hashh) % MOD;

hashh \*= 256;

hashh = hashh % MOD;

}

cout << ans <<"\n";

}

}

# **Problem: Week 4** [**ipmac-set-exist**](https://hustack.soict.ai/programming-contest/student-view-contest-problem-detail/PROJECT_1_2024_1/ipmac-set-exist)

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int n, a[maxn];

map<int, int> dd;

int T, MOD;

main()

{

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cin.tie(0);

cout.tie(0);

if (fopen(Task".inp", "r"))

{

freopen(Task".inp", "r", stdin);

freopen(Task".out", "w", stdout);

}

cin >> n;

for(int i = 1; i <= n; i++)

{

cin >> a[i];

cout << dd[a[i]] <<"\n";

if(dd[a[i]] == 0) dd[a[i]] = 1;

}

}

# **Problem: Week 4** [**STORE\_SEARCH\_STRING**](https://hustack.soict.ai/programming-contest/student-view-contest-problem-detail/PROJECT_1_2024_1/STORE_SEARCH_STRING)

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Description automatically generated

#include <bits/stdc++.h>

#define Task "bai1"

#define int long long

#define maxn 1000005

using namespace std;

int n, a[maxn];

map<string, int> dd;

main()

{

ios::sync\_with\_stdio(false);

cin.tie(0);

cout.tie(0);

if (fopen(Task".inp", "r"))

{

freopen(Task".inp", "r", stdin);

freopen(Task".out", "w", stdout);

}

string s;

while(cin >> s)

{

if (s == "\*") break;

dd[s] = 1;

}

while(cin >> s)

{

if (s == "\*\*\*") return 0;

string s1;

cin >> s1;

if (s == "find")

{

cout << dd[s1];

}

else

{

if(dd[s1] == 1)

{

cout << 0;

}

else

{

cout << 1;

dd[s1] = 1;

}

}

cout <<"\n";

}

}

# **Problem: Week 4** [**SUM\_PAIR\_EQUAL\_M**](https://hustack.soict.ai/programming-contest/student-view-contest-problem-detail/PROJECT_1_2024_1/SUM_PAIR_EQUAL_M)

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#define Task "bai1"

#define int long long

#define maxn 1000005

using namespace std;

int n, a[maxn];

map<int, int> dd;

main()

{

ios::sync\_with\_stdio(false);

cin.tie(0);

cout.tie(0);

if (fopen(Task".inp", "r"))

{

freopen(Task".inp", "r", stdin);

freopen(Task".out", "w", stdout);

}

int m;

cin >> n >> m;

for(int i = 1; i <= n; i++)

{

cin >> a[i];

dd[a[i]]++;

}

sort(a + 1, a + n + 1);

vector<int> khac;

a[0] = a[1] - 1;

int ans = 0;

for(int i = 1; i <= n; i++)

if(a[i] != a[i - 1]) khac.push\_back(a[i]);

for(auto x : khac)

{

if(x > m/2 - 1) break;

//cout << x <<" ";

int j = m - x;

//cout << ans <<"\n";

ans += dd[x] \* dd[j];

}

cout << ans;

}