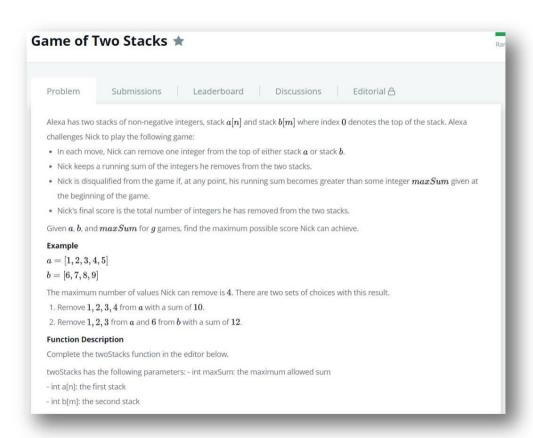
Competitive Coding lab Experiment – 2(stacks & queues)

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Question 1:



Code:

#include <bits/stdc++.h>

#include <iostream> using namespace std;

```
int main(){
 int g;
 cin >> g;
for (int uu = 0; uu < g; uu++){ int n;
      m; int x;
 int
 cin >> n >> m >> x;
 vector<int> a(n);
 for (int u = 0; u < n; u++)
 {
 cin >> a[u];
 }
 vector<int> b(m);
 for (int k = 0; k < m; k++)
 {
 cin >> b[k];
 }
 int sum = 0, count = 0, temp = 0, i = 0, j = 0; while (i < n \&\&
 sum + a[i] \le x)
 {
 sum += a[i];
 i++;
 count = i;
 while (j < m \&\& i >= 0)
```

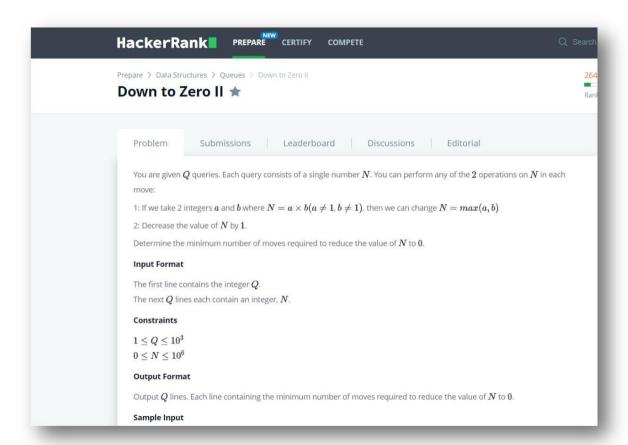
```
sum += b[j];
j++;
while (sum > x && i > 0)

{
i--;
sum -= a[i];
}
if (sum <= x && i + j > count)
count = i + j;
}
cout << count << endl;
}
return 0;
}</pre>
```

Output:

	rned 30.00 points! Ints away from the 2nd star for your problem solving badge.	94% 96/100	
Congratulati	ions b. Would you like to challenge your friends? [] in	Next Challenge	
Tou solved this chanenge	e. Would you like to challenge your mentast		
⊗ Test case 0	Compiler Message		
⊘ Test case 1 🛆	Success		
☑ Test case 2 💍	Input (stdin)	Download	
Ø Test case 3 △	1 1 2 5 4 10 3 4 2 4 6 1		
♂ Test case 4 💍	4 2 1 8 5		
⊘ Test case 5 🛆	Expected Output	Download	
	1 4		

Question 2:



Code:

```
#include <bits/stdc++.h>
using namespace std;
int main()
 int test;
 cin >> test;
 while (test--)
 {
 int n;
 cin >> n;
 int steps = 0;
 if(n == 0)
 cout << 0 << endl;
 continue;
 }
 if (n == 1)
 cout << 1 << endl;
 continue;
 vector<int> dist(n + 1, 0);
 queue<int> q;
```

```
q.push(n);
dist[n] = 1;
while (1)
int element = q.front();
q.pop();
if (element == 2)
{
cout << dist[2] + 1 << endl;
break;
}
if (dist[element - 1] == 0)
{
dist[element - 1] = dist[element] + 1;
q.push(element - 1);
}
for (int i = 2; i * i \le element; i++)
if (element % i == 0)
{
int maxfrac = element / i;
if (dist[maxfrac] == 0)
dist[maxfrac] = dist[element] + 1, q.push(maxfrac);
}
}
```

```
}
return 0;
}
```

Output:

