

Project ... H34086149_hw2_challenge.cpp test1.cpp H34086149_hw3_1.cpp H34086149_hw3-2.cpp H34086149_hw3_challenge(basic).cpp H34086149_hw3_challenge(efficient).cpp

```
1 //=====
2 // Name      : H34086149_hw3_1.cpp
3 // Author    : mr.NTD
4 // Version   :
5 // Copyright : Your copyright notice
6 // Description: Hello World in C++, Ansi-style
7 //=====
8
9 #include <iostream>
10 using namespace std;
11
12 int main() {
13     int counter = 0, number, largest;
14
15     cout << "Please input 10 numbers\n";
16     cin >> number;
17     counter++;
18     largest = number;
19     while(counter < 10 && cin >> number)
20     {
21         counter ++;
22         if(number > largest) largest = number;
23     }
24     cout << "The largest number is " << largest << '\n';
25     return 0;
26 }
27
```

<terminated> (exit value: 0) H34086149_hw3_1.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw3_1\Debug\H34086149_hw3_1.exe (2019/10/8 下午9:59)

Please input 10 numbers
20 32 58 79 1 -86 94 -63 2 -7
The largest number is 94

Project ... H34086149_hw3-2.exe H34086149_hw2_challenge.cpp test1.cpp H34086149_hw3_1.cpp H34086149_hw3-2.cpp H34086149_hw3_challenge(basic).cpp H34086149_hw3_challenge(efficient).cpp

```
1 //=====
2 // Name      : H34086149_hw3-2.cpp
3 // Author    : mr.NTD
4 // Version   :
5 // Copyright : Your copyright notice
6 // Description : Hello World in C++, Ansi-style
7 //=====
8
9 #include <iostream>
10 using namespace std;
11
12 int main() {
13     int i = 1, times;
14
15     cout << "N\t10*N\t100*N\t1000*N\n";
16     while(i <= 5)
17     {
18         times = 1;
19         while(times <= 1000)
20         {
21             cout << i * times << '\t';
22             times *= 10;
23         }
24         cout << '\n';
25         i++;
26     }
27     return 0;
28 }
29
```

Problems Tasks Properties Console

<terminated> (exit value: 0) H34086149_hw3-2.exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw3-2\Debug\H34086149_hw3-2.exe (2019/10/8 下午10:02)

N	10*N	100*N	1000*N
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000

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Project ... H34086149_hw2_challenge.cpp test1.cpp H34086149_hw3_1.cpp H34086149_hw3-2.cpp H34086149_hw3_challenge(basic).cpp H34086149_hw3_challenge(efficient).cpp

```
1 //=====
2 // Name      : H34086149_hw3_challenge(basic).cpp
3 // Author     : mr. NTD
4 // Version    :
5 // Copyright  : Your copyright notice
6 // Description: Hello World in C++, Ansi-style
7 //=====
8
9 #include<bits/stdc++.h>
10 using namespace std;
11
12 int equilibrium(int arr[], unsigned int n) //runtime O(N^2)
13 {
14     if(n <= 2) return -1;
15     int prefix_sum, suffix_sum;
16
17     for(int i = 1; i < n-1; i++) {
18         prefix_sum = 0;
19         suffix_sum = 0;
20         for(int j = 0; j < i; j++) prefix_sum += arr[j];
21         for(int j = i+1; j < n; j++) suffix_sum += arr[j];
22         if(prefix_sum == suffix_sum) return i;
23     }
24     return -1;
25 }
26
27 int main()
28 {
29     unsigned int n;
```

Problems Tasks Properties Console

```
<terminated> (exit value: 0) H34086149_hw3_challenge(basic).exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw3_challenge(basic)\Debug\H34086149_hw3_challenge(basic).exe (2019/10/8 下午10:04)
請輸入陣列長度
7
請開始輸入陣列
-7 1 5 2 -4 3 0
b
```

Project ... H34086149_hw2_challenge.cpp test1.cpp H34086149_hw3_1.cpp H34086149_hw3-2.cpp H34086149_hw3_challenge(basic).cpp H34086149_hw3_challenge(efficient).cpp

```
1 //=====
2 // Name      : H34086149_hw3_challenge(efficient).cpp
3 // Author     : mr.NTD
4 // Version    :
5 // Copyright  : Your copyright notice
6 // Description: Hello World in C++, Ansi-style
7 //=====
8
9 #include<bits/stdc++.h>
10 using namespace std;
11
12 int equilibrium(int arr[], unsigned int n) //runtime O(N+N)=O(N)
13 {
14     if(n <= 2) return -1;
15     int prefix_sum[n], sum = 0;
16
17     prefix_sum[0] = arr[0];
18     for(int i = 1; i < n; i++) prefix_sum[i] = prefix_sum[i-1] + arr[i]; //runtime O(N)
19     for(int i = n-1; i >= 2; i--) { //runtime O(N)
20         sum += arr[i];
21         if(sum == prefix_sum[i-2]) return i-1;
22     }
23     return -1;
24 }
25
26 int main()
27 {
28     unsigned int n;
29
30     cout << "Enter the number of elements: ";
```

<terminated> (exit value: 0) H34086149_hw3_challenge(efficient).exe [C/C++ Application] C:\Users\user\eclipse-workspace\H34086149_hw3_challenge(efficient)\Debug\H34086149_hw3_challenge(efficient).exe (2019/10/8 下午10:04)

請輸入陣列長度

7

請開始輸入陣列

-7 1 5 2 -4 3 0

3