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online compiler and debugger for c/c++

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CODE WITH ME

main.c


```
1 #include <stdio.h>
2 #include <time.h>
3 #include <sys/resource.h>
4 #include <stdlib.h>
5
6 // Get memory usage in KB
7 long get_memory_usage_kb() {
8     struct rusage usage;
9     getrusage(RUSAGE_SELF, &usage);
10    return usage.ru_maxrss;
11 }
12
13 int is_palindrome(int num) {
14     int original = num, reversed = 0, remainder;
15     while (num != 0) {
16         remainder = num % 10;
17         reversed = reversed * 10 + remainder;
18         num /= 10;
19     }
20     return original == reversed;
21 }
22
23 int main() {
24     int number = 12321;
25     int runs = 1000000;
26
27     clock_t compile_start = clock();
28     system("gcc palindrome.c -o palindrome.exe");
```

input

```
cc1: fatal error: palindrome.c: No such file or directory
compilation terminated.
Compilation Time: 0.126000 ms
Average Execution Time per run: 0.027122 µs
Memory Usage (diff): 0 KB
Number 12321 is a palindrome
```

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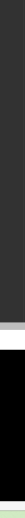
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CODE WITH CHIEF

main.c

```
26
27 clock_t compile_start = clock();
28 system("gcc palindrome.c -o palindrome_exec");
29 clock_t compile_end = clock();
30 double compilation_time_ms = 1000.0 * (compile_end - compile_start) / CLOCKS_PER_SEC;
31
32 long mem_before = get_memory_usage_kb();
33 clock_t start = clock();
34
35 int result = 0;
36 for (int i = 0; i < runs; i++) {
37     result = is_palindrome(number);
38 }
39
40 clock_t end = clock();
41 long mem_after = get_memory_usage_kb();
42
43 double exec_time_us = 1e6 * (end - start) / (CLOCKS_PER_SEC * runs);
44
45 printf("Compilation Time: %.6f ms\n", compilation_time_ms);
46 printf("Average Execution Time per run: %.6f us\n", exec_time_us);
47 printf("Memory Usage (diff): %ld KB\n", mem_after - mem_before);
48 printf("Number %d is %sa palindrome\n", number, result ? "" : "not ");
49
50 return 0;
51 }
52
```


input

```
Compilation Time: 0.126000 ms
Average Execution Time per run: 0.027122 us
Memory Usage (diff): 0 KB
Number 12321 is a palindrome

...Program finished with exit code 0
Press ENTER to exit console.
```

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1 #include <stdio.h>
2 #include <time.h>
3 #include <sys/resource.h>
4 #include <stdlib.h>
5
6 // Get memory usage in KB
7 long get_memory_usage_kb() {
8     struct rusage usage;
9     getrusage(RUSAGE_SELF, &usage);
10    return usage.ru_maxrss;
11 }
12
13 long long deep_recursion_sum(long long n) {
14     if (n <= 0) return 0;
15     return n + deep_recursion_sum(n - 1);
16 }
17
18 int main() {
19     long long n = 5000;
20     int runs = 100;
21
22     clock_t compile_start = clock();
23     system("gcc deeprecursion.c -o deeprecursion_exec");
24     clock_t compile_end = clock();
25     double compilation_time_ms = 1000.0 * (compile_end - compile_start) / CLOCKS_PER_SEC;
26
27     long mem_before = get_memory_usage_kb();
28     clock_t start = clock();
```

```
cc1: fatal error: deeprecursion.c: No such file or directory
compilation terminated.
Compilation Time: 0.101000 ms
Average Execution Time per run: 58.370000 µs
Memory Usage (diff): 128 KB
Sum from 5000 down to 0 is 12502500
```

Language C


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CODE WITH CHIEF

main.c

```
22 clock_t compile_start = clock();
23 system("gcc deeprecursion.c -o deeprecursion_exec");
24 clock_t compile_end = clock();
25 double compilation_time_ms = 1000.0 * (compile_end - compile_start) / CLOCKS_PER_SEC;
26
27 long mem_before = get_memory_usage_kb();
28 clock_t start = clock();
29
30 long long result = 0;
31 for (int i = 0; i < runs; i++) {
32     result = deep_recursion_sum(n);
33 }
34
35 clock_t end = clock();
36 long mem_after = get_memory_usage_kb();
37
38 double exec_time_us = 1e6 * (end - start) / (CLOCKS_PER_SEC * runs);
39
40 printf("Compilation Time: %.6f ms\n", compilation_time_ms);
41 printf("Average Execution Time per run: %.6f us\n", exec_time_us);
42 printf("Memory Usage (diff): %ld KB\n", mem_after - mem_before);
43 printf("Sum from %lld down to 0 is %lld\n", n, result);
44
45 return 0;
46 }
47
48
49
```




input

```
Compilation Time: 0.101000 ms
Average Execution Time per run: 58.370000 us
Memory Usage (diff): 128 KB
Sum from 5000 down to 0 is 12502500

...Program finished with exit code 0
Press ENTER to exit console.
```

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main.c

```
1 #include <stdio.h>
2 #include <math.h>
3 #include <time.h>
4 #include <sys/resource.h>
5 #include <stdlib.h>
6
7 // Get memory usage in KB
8 long get_memory_usage_kb() {
9     struct rusage usage;
10    getrusage(RUSAGE_SELF, &usage);
11    return usage.ru_maxrss;
12 }
13
14 double maclaurin_sin(double x, int n) {
15     double result = 0.0;
16     double term = x;
17     double sign = 1.0;
18     unsigned long factorial = 1;
19     result += term;
20
21     for (int k = 1; k < n; k++) {
22         factorial *= (2*k) * (2*k + 1);
23         sign *= -1;
24         term = sign * pow(x, 2*k + 1) / factorial;
25         result += term;
26     }
27     return result;
28 }
```

input

```
cc1: fatal error: maclaurin.c: No such file or directory
compilation terminated.
Compilation Time: 0.109000 ms
Average Execution Time per run: 0.242700 µs
Memory Usage (diff): 128 KB
Maclaurin approx: 0.841470984807897
math.h sin(x): 0.841470984807897
Absolute error: 0.000000000000000
```


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CODE WITH CHIEF

main.c

```
27     return result;
28 }
29
30 int main() {
31     double x = 1.0;
32     int terms = 12;
33     int runs = 100000;
34
35     clock_t compile_start = clock();
36     system("gcc maclaurin.c -o maclaurin_exec -lm");
37     clock_t compile_end = clock();
38     double compilation_time_ms = 1000.0 * (compile_end - compile_start) / CLOCKS_PER_SEC;
39
40     long mem_before = get_memory_usage_kb();
41     clock_t start = clock();
42
43     for (int i = 0; i < runs; i++) {
44         maclaurin_sin(x, terms);
45     }
46
47     clock_t end = clock();
48     long mem_after = get_memory_usage_kb();
49
50     double exec_time_us = 1e6 * (end - start) / (CLOCKS_PER_SEC * runs);
51     double approx = maclaurin_sin(x, terms);
52     double actual = sin(x);
53
54     printf("Compilation Time: %f ms\n", compilation_time_ms);
```


cc1: fatal error: maclaurin.c: No such file or directory
compilation terminated.
Compilation Time: 0.109000 ms
Average Execution Time per run: 0.242700 µs
Memory Usage (diff): 128 KB
Maclaurin approx: 0.841470984807897
math.h sin(x): 0.841470984807897
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CODE WITH CHIEF

main.c

```
39
40 long mem_before = get_memory_usage_kb();
41 clock_t start = clock();
42
43 for (int i = 0; i < runs; i++) {
44     maclaurin_sin(x, terms);
45 }
46
47 clock_t end = clock();
48 long mem_after = get_memory_usage_kb();
49
50 double exec_time_us = 1e6 * (end - start) / (CLOCKS_PER_SEC * runs);
51 double approx = maclaurin_sin(x, terms);
52 double actual = sin(x);
53
54 printf("Compilation Time: %.6f ms\n", compilation_time_ms);
55 printf("Average Execution Time per run: %.6f us\n", exec_time_us);
56 printf("Memory Usage (diff): %ld KB\n", mem_after - mem_before);
57 printf("Maclaurin approx: %.15f\n", approx);
58 printf("math.h sin(x): %.15f\n", actual);
59 printf("Absolute error: %.15f\n", fabs(approx - actual));
60
61 return 0;
62 }
63
64
65
66
```

input


```
Memory Usage (diff): 128 KB
Maclaurin approx: 0.841470984807897
math.h sin(x): 0.841470984807897
Absolute error: 0.000000000000000

...Program finished with exit code 0
Press ENTER to exit console.
```

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