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C:\Users\mathi\Documents\U × + - □ ×
```

```
best
average
worst
-----
Process exited after 0.04159 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\mathi\Documents\Untitled2.cpp - [Executing] - Dev-C++ 5.11
```

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(globals)

Project Classes Debug recursive and non recursive factorial.cpp Untitled2.cpp

```
1 #include<stdio.h>
2 int main()
3 {
4     int n=1,i,j,k;
5     if(n=1){
6         printf("best");
7     }
8     for(i=1;i<=n;i++){
9         printf("\n average");
10    }
11    for(j=1;j<=n;j++){
12        for(k=j;k<=n;k++){
13            printf("\n worst");
14        }
15    }
16    return 0;
17 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

☐ Shorten compiler paths

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\mathi\Documents\Untitled2.exe
- Output Size: 127.931640625 KiB
- Compilation Time: 0.23s
```

Line: 9 Col: 30 Sel: 0 Lines: 17 Length: 226 Insert Done parsing in 0.032 seconds



```

1  #include <stdio.h>
2
3  int main() {
4      int n = 10;
5
6      // O(1) - Constant Time Complexity
7      printf("Constant Time Complexity (O(1))\n");
8
9      // O(n) - Linear Time Complexity
10     printf("Linear Time Complexity (O(n))\n");
11     for (int i = 0; i < n; i++) {
12         printf("%d ", i);
13     }
14     printf("\n");
15
16     // O(n^2) - Quadratic Time Complexity
17     printf("Quadratic Time Complexity (O(n^2))\n");

```

Abort Compilation

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Sai Tejasree\Documents\time complexity.
- Output Size: 129.2919921875 KiB
- Compilation Time: 0.20s

```

Constant Time Complexity (O(1))

Linear Time Complexity (O(n))

0 1 2 3 4 5 6 7 8 9

Quadratic Time Complexity (O(n^2))

(0, 0)	(0, 1)	(0, 2)	(0, 3)	(0, 4)	(0, 5)	(0, 6)	(0, 7)	(0, 8)	(0, 9)
(1, 0)	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)	(1, 7)	(1, 8)	(1, 9)
(2, 0)	(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)	(2, 7)	(2, 8)	(2, 9)
(3, 0)	(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)	(3, 7)	(3, 8)	(3, 9)
(4, 0)	(4, 1)	(4, 2)	(4, 3)	(4, 4)	(4, 5)	(4, 6)	(4, 7)	(4, 8)	(4, 9)
(5, 0)	(5, 1)	(5, 2)	(5, 3)	(5, 4)	(5, 5)	(5, 6)	(5, 7)	(5, 8)	(5, 9)
(6, 0)	(6, 1)	(6, 2)	(6, 3)	(6, 4)	(6, 5)	(6, 6)	(6, 7)	(6, 8)	(6, 9)
(7, 0)	(7, 1)	(7, 2)	(7, 3)	(7, 4)	(7, 5)	(7, 6)	(7, 7)	(7, 8)	(7, 9)
(8, 0)	(8, 1)	(8, 2)	(8, 3)	(8, 4)	(8, 5)	(8, 6)	(8, 7)	(8, 8)	(8, 9)
(9, 0)	(9, 1)	(9, 2)	(9, 3)	(9, 4)	(9, 5)	(9, 6)	(9, 7)	(9, 8)	(9, 9)

Process exited after 3.522 seconds with return value 0
Press any key to continue . . .



```
1  #include <stdio.h>
2
3  int reverseNumber(int num, int rev)
4  {
5      if (num == 0)
6          return rev;
7      else
8          return reverseNumber(num / 10, rev * 10 + num % 10);
9  }
10
11 int main()
12 {
13     int number, reversedNumber;
14
15     printf("Enter an integer: ");
16     scanf("%d", &number);
17 }
```

Abort Compilation

Compilation results...

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Sai Tejasree\Documents
- Output Size: 128.638671875 KiB
- Compilation Time: 0.25s
```

C:\Users\Sai Tejasree\Docume

```
Enter an integer: 45
Reverse of the number: 54
```

```
-----
Process exited after 23.16 seconds with return value 0
Press any key to continue . . .
```

C:\Users\Sai Tejasree\Documents\perfect num.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

reverse num.cpp perfect num.cpp

```
1 #include <stdio.h>
2
3 int isPerfect(int num) {
4     int sum = 0;
5     for (int i = 1; i <= num / 2; i++) {
6         if (num % i == 0) {
7             sum += i;
8         }
9     }
10    return sum == num;
11 }
12
13 int main() {
14     int number;
15     printf("Enter a number: ");
16     scanf("%d", &number);
17 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Sai Tejasree\Documents\perfect num.exe
- Output Size: 129.1328125 KiB
- Compilation Time: 0.23s

Line: 13 Col: 13 Sel: 0 Lines: 26 Length: 473 Insert Done parsing in 0.015 seconds

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Enter a number: 6
6 is a perfect number.

Process exited after 14.59 seconds with return value 0
Press any key to continue . . .

13:24 05-06-2024



```
1  #include <stdio.h>
2  int nonRecursiveFactorial(int n)
3  {
4      int result = 1;
5      for (int i = 1; i <= n; i++)
6      {
7          result *= i;
8      }
9      return result;
10 }
11
12 int recursiveFactorial(int n)
13 {
14     if (n == 0)
15     {
16         return 1;
17     } else
```

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Recursive Factorial of 5 is: 120

Process exited after 1.153 seconds with return value 0

Press any key to continue . . .