

```
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
File Edit Search View Project Execute Tools AStyle Window Help
[Icons] (globals)
Project Classes Debug recursive and non recursive factorial.cpp Untitled2.cpp
..... main 0 : int
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

```
C:\Users\mathi\Documents\reverse number using recursion.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug
main() : int
nonRecursiveFactorial()
recursiveFactorial()

Non-Recursive Factorial of 5 is: 120
Recursive Factorial of 5 is: 120

-----
Process exited after 0.05628 seconds with return value 0
Press any key to continue . . .
```

```
reverse number using recursion.cpp
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
18      {
19          return n * recursiveFactorial(n - 1);
20      }
21  }
22
23  int main()
24  {
25      . . .
26  }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

☐ Shorten compiler paths

- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\mathi\Documents\reverse number using recursi  
- Output Size: 129.05078125 KiB  
- Compilation Time: 0.30s

Line: 10 Col: 2 Sel: 0 Lines: 33 Length: 652 Insert Done parsing in 0.047 seconds

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

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 0.06871 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\mathi\Documents\reverse number using recursion.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2
(globals)
Project Classes Debug reverse number using recursion.cpp
main0 : int
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");
18    for (int i = 0; i < n; i++) {
19        for (int j = 0; j < n; j++) {
20            printf("(%d, %d) ", i, j);
21        }
22        printf("\n");
23    }
24
25    return 0;
26 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\mathi\Documents\reverse number using recursi  
- Output Size: 129.306640625 KiB  
- Compilation Time: 0.45s

Line: 26 Col: 2 Sel: 0 Lines: 26 Length: 594 Insert Done parsing in 0.031 seconds

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

Abort Compilation

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\mathi\Documents\reverse number using recursi
- Output Size: 128.669921875 KiB
- Compilation Time: 0.28s
```

☐ Shorten compiler pathsenter an integer: 456  
reversed of number : 654-----  
Process exited after 3.125 seconds with return value 0  
Press any key to continue . . . |

```
C:\Users\mathi\Documents\reverse number using recursion.cpp - [Executing] - Dev-C++ 5.11

Non-Recursive Factorial of 5 is: 120
Recursive Factorial of 5 is: 120

-----
Process exited after 0.05628 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\mathi\Documents\reverse number using recursion.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug
main() : int
nonRecursiveFactorial()
recursiveFactorial()

reverse number using recursion.cpp
10 L }
11
12 int recursiveFactorial(int n)
13 {
14     if (n == 0)
15     {
16         return 1;
17     } else
18     {
19         return n * recursiveFactorial(n - 1);
20     }
21 }
22
23 int main()
24 {
25     int num = 5;
26     int nonRecursiveResult = nonRecursiveFactorial(num);
27     printf("Non-Recursive Factorial of %d is: %d\n", num, nonRecursiveResult);
28
29     int recursiveResult = recursiveFactorial(num);
30     printf("Recursive Factorial of %d is: %d\n", num, recursiveResult);
31
32     return 0;
33 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\mathi\Documents\reverse number using recursion.exe  
- Output Size: 129.05078125 KiB  
- Compilation Time: 0.30s

Line: 10 Col: 2 Sel: 0 Lines: 33 Length: 652 Insert Done parsing in 0.047 seconds

