1. C Program to Display Prime Numbers Between Intervals Using Function

Enter two positive integers: 12
30
Prime numbers between 12 and 30 are: 13 17 19 23 29

2. C Program to Check Whether a Number can be Expressed as Sum of Two Prime Numbers

This program takes a positive integer from the user and checks whether that number can be expressed as the sum of two prime numbers.

If the number can be expressed as the sum of two prime numbers, the output shows the combination of the prime numbers.

```
Enter a positive integer: 34
34 = 3 + 31
34 = 5 + 29
34 = 11 + 23
34 = 17 + 17
```

3. C Program to Find GCD of Two Numbers using Recursion

Problem Description

This C program, using recursion, finds the GCD of the two numbers entered by the user.

4. C Program to Find LCM of Two Numbers

Problem Description

Write a C program to find the LCM of two numbers.

What is LCM (Least Common Multiple)?
LCM stands for Least Common Multiple. It is a method to find the lowest common multiple between the two numbers.

LCM of two numbers is the lowest possible number that is divisible by both numbers.

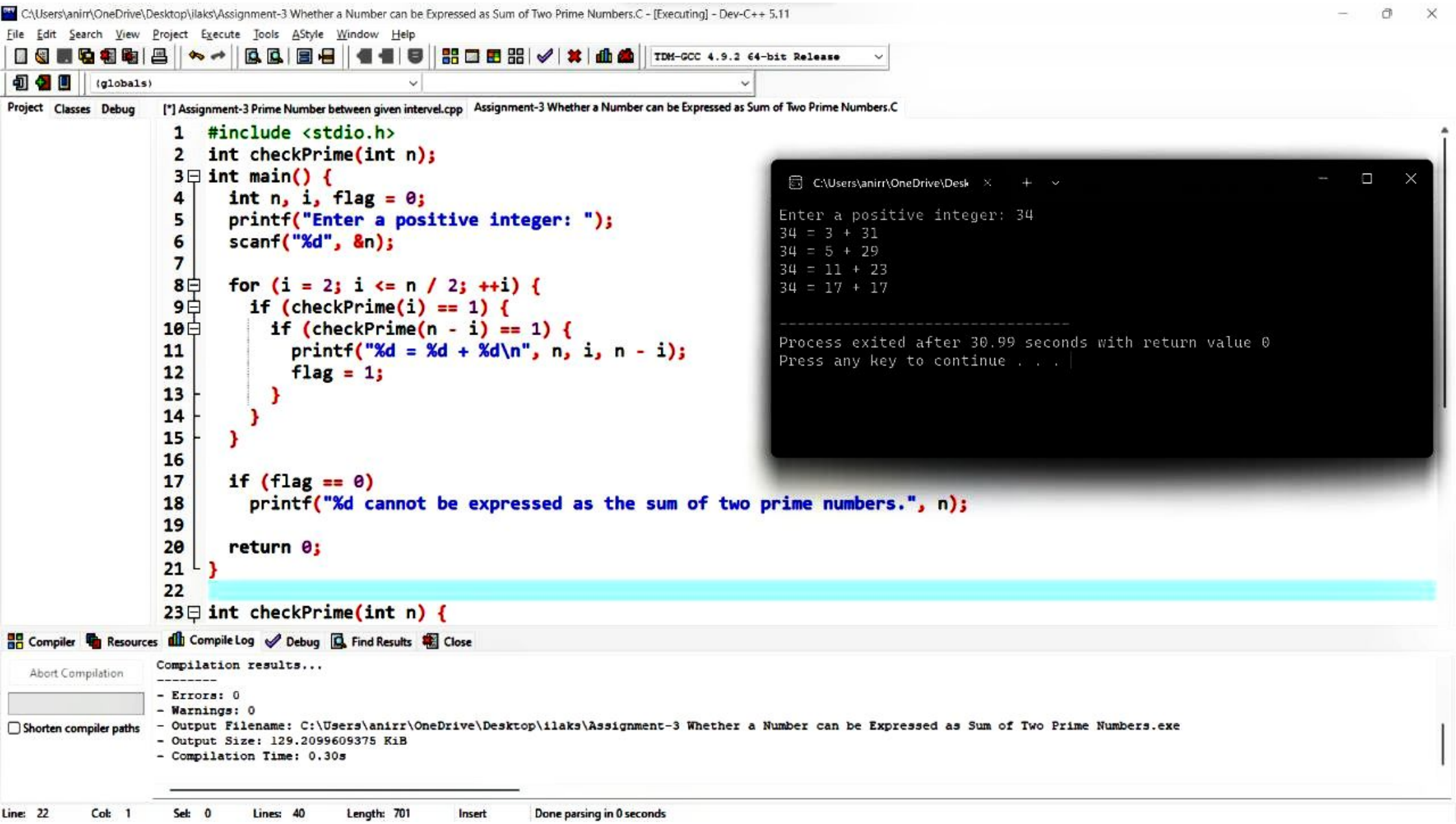
Examples: LCM(10,15) = 30, LCM(18,26) = 234.

5. C Program to Find Highest Frequency Character in a String

Enter a string : Welcome to Sanfoundry's C Programming Class !

Max repeated character in the string = o

It occurs 4 times


C:\Users\anirr\OneDrive\Desktop\ilaks\Assignment-3 Whether a Number can be Expressed as Sum of Two Prime Numbers.C - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
[*] Assignment-3 Prime Number between given intervel.cpp
Assignment-3 Whether a Number can be Expressed as Sum of Two Prime Numbers.C
1 #include <stdio.h>
2 int checkPrime(int n);
3 int main() {
4 int n, i, flag = 0;
5 printf("Enter a positive integer: ");
6 scanf("%d", &n);
7
8 for (i = 2; i <= n / 2; ++i) {
9 if (checkPrime(i) == 1) {
10 if (checkPrime(n - i) == 1) {
11 printf("%d = %d + %d\n", n, i, n - i);
12 flag = 1;
13 }
14 }
15 }
16
17 if (flag == 0)
18 printf("%d cannot be expressed as the sum of two prime numbers.", n);
19
20 return 0;
21 }
22
23 int checkPrime(int n) {
C:\Users\anirr\OneDrive\Desk
Enter a positive integer: 34
34 = 3 + 31
34 = 5 + 29
34 = 11 + 23
34 = 17 + 17
Process exited after 30.99 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\anirr\OneDrive\Desktop\ilaks\Assignment-3 Whether a Number can be Expressed as Sum of Two Prime Numbers.exe
- Output Size: 129.2099609375 KiB
- Compilation Time: 0.30s
Line: 22 Col: 1 Sel: 0 Lines: 40 Length: 701 Insert Done parsing in 0 seconds

C:\Users\hp\Documents\prime numbers10.exe

```
Enter two positive integers: 20
45
Prime numbers between 20 and 45 are:
 23
29
31
37
41
43

--------------------------------
Process exited after 5.23 seconds with return value 0
Press any key to continue . . .
```

C:\Users\hp\Documents\gcd of numbers.exe

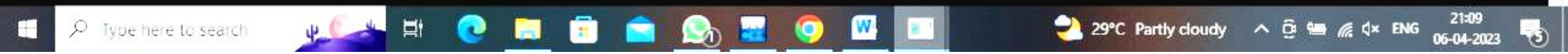
```
Enter two positive integers: 366 60
G.C.D of 366 and 60 is 6.
--------------------------------
Process exited after 9.331 seconds with return value 0
Press any key to continue . . .
```

1. C Program to Display Prime Numbers Between Intervals Using Function

Enter two positive integers: 12
30
Prime numbers between 12 and 30 are: 13 17 19 23 29

C:\Users\hp\Documents\lcm.exe

```
Enter two positive integers: 72 120
The LCM of 72 and 120 is 360.
--------------------------------
Process exited after 6.19 seconds with return value 0
Press any key to continue . . .
```



C:\Users\hp\Documents\gcd of numbers.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

gcd of numbers.cpp

```
1   #include <stdio.h>
2   int hcf(int n1, int n2);
3   int main() {
4       int n1, n2;
5       printf("Enter two positive integers: ");
6       scanf("%d %d", &n1, &n2);
7       printf("G.C.D of %d and %d is %d.", n1, n2, hcf(n1, n2));
8       return 0;
9   }
10
11  int hcf(int n1, int n2) {
12      if (n2 != 0)
13          return hcf(n2, n1 % n2);
14      else
15          return n1;
16  }
17
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\gcd of numbers.exe
- Output Size: 128.619140625 KiB
- Compilation Time: 0.64s
```

Line: 17 Col: 1 Sel: 0 Lines: 17 Length: 351 Insert Done parsing in 0.172 seconds

Type here to search

29°C Partly cloudy ENG 20:58 06-04-2023

Untitled3 - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

gcd of numbers.cpp lcm.cpp [*] Untitled3

```
33              if (flag == 0)
34              {
35                  visited[j++] = string1[i];
36                  count[j - 1]++;
37              }
38              flag = 0;
39          }
40      }
41
42      for (i = 0; i < j; i++)
43      {
44          if ((i == 0) && (visited[i] != ' '))
45          {
46              max = count[i];
47              continue;
48          }
49          if ((max < count[i]) && (visited[i] != ' '))
50          {
51              max = count[i];
52              index = i;
53          }
54      }
55
56      printf("\nMax repeated character in the string = %c ", visited[index]);
57      printf("\nIt occurs %d times", count[index]);
58  }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\lcm.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.28s
```

Line: 58 Col: 2 Sel: 0 Lines: 58 Length: 1271 Insert Done parsing in 0.031 seconds

Type here to search

28°C Partly cloudy ENG 21:13 06-04-2023

4. C Program to Find LCM of Two Numbers

Problem Description

Write a C program to find the LCM of two numbers.

What is LCM (Least Common Multiple)?
LCM stands for Least Common Multiple. It is a method to find the lowest common multiple between the two numbers.

LCM of two numbers is the lowest possible number that is divisible by both numbers.

Examples: LCM(10,15) = 30, LCM(18,26) = 234.

Untitled5 - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

gcd of numbers.cpp | lcm.cpp | highest frequency character in A STRING.cpp | ANAGRAM.cpp | SUM OF ASCII VALUES.cpp

```
1  #include <stdio.h>
2  #include <string.h>
3
4  void main()
5  {
6      int sum = 0, i, len;
7      char string1[100];
8
9      printf("Enter the string : ");
10     scanf("%[^\n]s", string1);
11         len = strlen(string1);
12     for (i = 0; i < len; i++)
13     {
14         sum = sum + string1[i];
15     }
16     printf("\nSum of all characters : %d ",sum);
17 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\ANAGRAM.exe
- Output Size: 129.6376953125 KiB
- Compilation Time: 0.28s
```

Line: 17 Col: 2 Sel: 0 Lines: 17 Length: 344 Insert Done parsing in 0.047 seconds

Type here to search

28°C ENG 22:15 06-04-2023

5. C Program to Find Highest Frequency Character in a String

Enter a string : Welcome to Sanfoundry's C Programming Class !

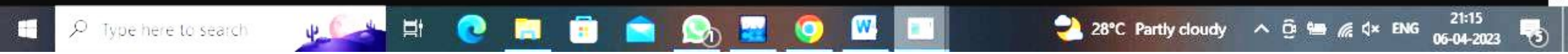
Max repeated character in the string = o

It occurs 4 times

C:\Users\hp\Documents\highest frequency character in A STRING.exe

```
Enter a string : C PROGRAMMING FOR QUALITY ANALYTICS

Max repeated character in the string = A
It occurs 4 times
--------------------------------
Process exited after 24.7 seconds with return value 0
Press any key to continue . . .
```



C:\Users\hp\Documents\array of elements.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug | gcd of numbers.cpp | lcm.cpp | highest frequency character in A STRING.cpp | ANAGRAM.cpp | SUM OF ASCII VALUES.cpp | permutations.cpp | array of elements.cpp

```
1  #include <stdio.h>
2
3  #define MAX_SIZE 100
4  void printArray(int arr[], int size);
5
6
7  int main()
8  {
9      int source_arr[MAX_SIZE], dest_arr[MAX_SIZE];
10     int size, i;
11
12     int *source_ptr = source_arr;    // Pointer to source_arr
13     int *dest_ptr   = dest_arr;      // Pointer to dest_arr
14
15     int *end_ptr;
16
17
18     /*
19      * Input size and elements in source array
20      */
21     printf("Enter size of array: ");
22     scanf("%d", &size);
23     printf("Enter elements in array: ");
24     for (i = 0; i < size; i++)
25     {
26         scanf("%d", (source_ptr + i));
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\array of elements.exe
- Output Size: 129.658203125 KiB
- Compilation Time: 1.17s
```


Line: 3 Col: 21 Sel: 0 Lines: 74 Length: 1335 Insert Done parsing in 0.047 seconds

C:\Users\hp\Documents\SUM OF ASCII VALUES.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug | gcd of numbers.cpp | lcm.cpp | highest frequency character in A STRING.cpp | ANAGRAM.cpp | SUM OF ASCII VALUES.cpp

```
1   #include <stdio.h>
2   #include <stdio.h>
3   main()
4   {
5       int sum = 0, i, len,strlen;
6       char string1[100];
7
8       printf("Enter the string : ");
9       scanf("%[^\n]s", string1);
10          len = strlen(string1);
11      for (i = 0; i < len; i++)
12      {
13          sum = sum + string1[i];
14      }
15      printf("\nSum of all characters : %d ",sum);
16      return 0;
17  }
```

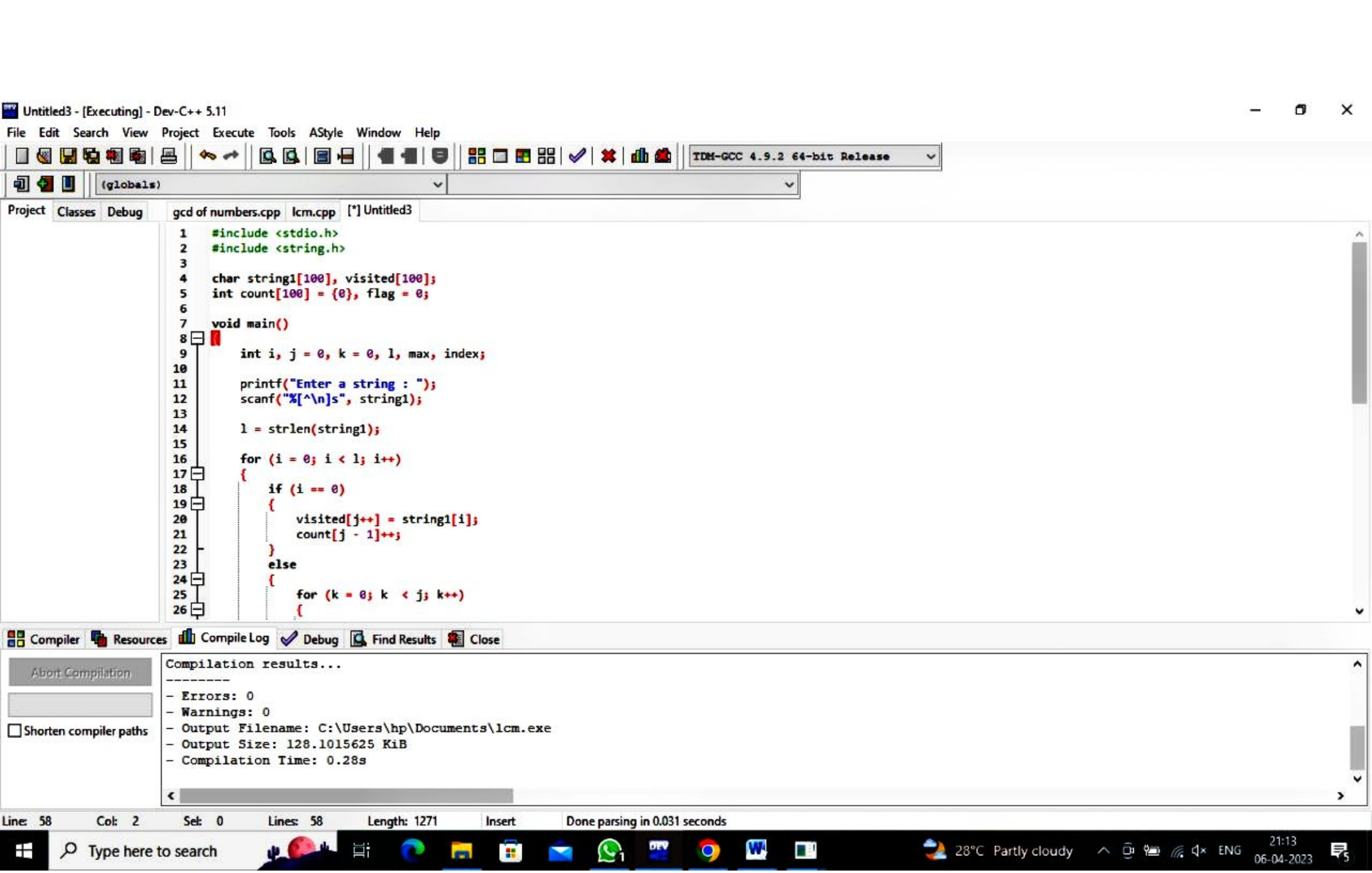
Compiler (2) | Resources | Compile Log | Debug | Find Results | Close

Line	Col	File	Message
		C:\Users\hp\Documents\SUM OF ASCII VALUES.cpp	In function 'int main()':
10	29	C:\Users\hp\Documents\SUM OF ASCII VALUES.cpp	[Error] 'strlen' cannot be used as a function

Line: 17 Col: 2 Sel: 0 Lines: 17 Length: 357 Insert Done parsing in 0.062 seconds

Type here to search

28°C ENG 22:20 06-04-2023


Untitled3 - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
gcd of numbers.cpp lcm.cpp [*] Untitled3
#include <stdio.h>
#include <string.h>
char string1[100], visited[100];
int count[100] = {0}, flag = 0;
void main()
{
int i, j = 0, k = 0, l, max, index;
printf("Enter a string : ");
scanf("%[^\n]s", string1);
l = strlen(string1);
for (i = 0; i < l; i++)
{
if (i == 0)
{
visited[j++] = string1[i];
count[j - 1]++;
}
else
{
for (k = 0; k < j; k++)
{
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\lcm.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.28s
Line: 58 Col: 2 Sel: 0 Lines: 58 Length: 1271 Insert Done parsing in 0.031 seconds
Type here to search
28°C Partly cloudy
ENG
21:13
06-04-2023

C:\Users\hp\Documents\permutations.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug | gcd of numbers.cpp | lcm.cpp | highest frequency character in A STRING.cpp | ANAGRAM.cpp | SUM OF ASCII VALUES.cpp | permutations.cpp

```
9                       break;
10                  char *t = s[i - 1];
11                  s[i - 1] = s[j - 1];
12                  s[j - 1] = t;
13                  for (; i < n - 1; i++, n--){
14                      t = s[i];
15                      s[i] = s[n - 1];
16                      s[n - 1] = t;
17                  }
18                  return 1;
19              }
20      for (int i = 0; i < n - 1; i++, n--){
21          char *t = s[i];
22          s[i] = s[n - 1];
23          s[n - 1] = t;
24      }
25      return 0;
26  }
27  int main(){
28      char *strings[] = {"abc", "def", "ghi"};
29      int n = 3;
30      do{
31          for (int i = 0; i < n; i++)
32              printf("%s%c", strings[i], i == n - 1 ? '' : ' ');
33      } while (next_permutation(n, strings));
34  }
```

Compiler (5) | Resources | Compile Log | Debug | Find Results | Close

Line	Col	File	Message
32	53	C:\Users\hp\Documents\permutations.cpp	[Error] empty character constant
		C:\Users\hp\Documents\permutations.cpp	**In function 'int main()':**
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]

Line: 25 Col: 14 Sel: 0 Lines: 34 Length: 950 Insert Done parsing in 0.062 seconds

3. C Program to Find GCD of Two Numbers using Recursion

Problem Description

This C program, using recursion, finds the GCD of the two numbers entered by the user.

C:\Users\hp\Documents\permutations.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

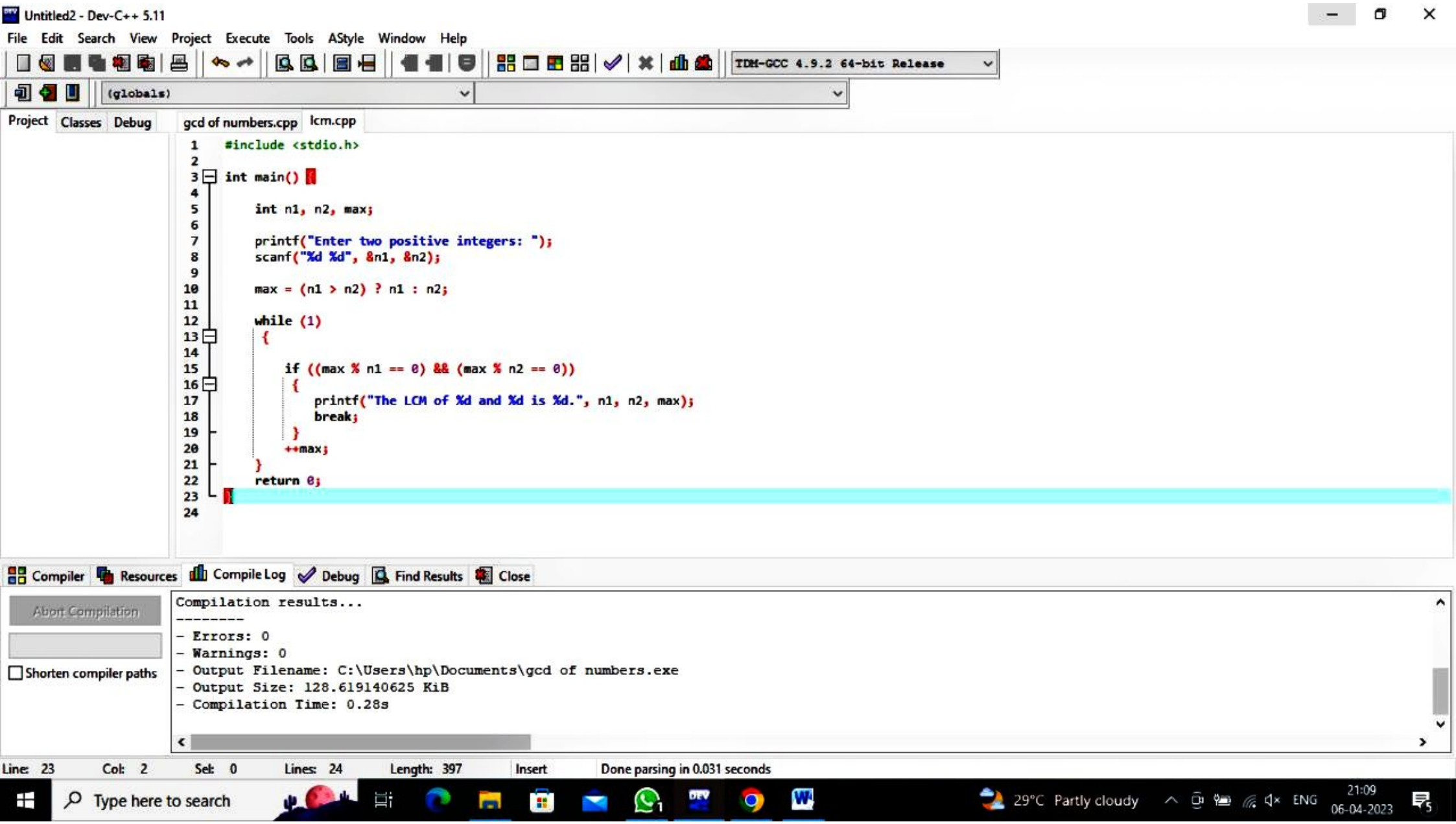
gcd of numbers.cpp | lcm.cpp | highest frequency character in A STRING.cpp | ANAGRAM.cpp | SUM OF ASCII VALUES.cpp | permutations.cpp

```
#include <stdio.h>
#include <string.h>
int next_permutation(int n, char **s){
    for (int i = n - 1; i > 0; i--)
        if (strcmp(s[i], s[i - 1]) > 0){
            int j = i + 1;
            for (; j < n; j++)
                if (strcmp(s[j], s[i - 1]) <= 0)
                    break;
            char *t = s[i - 1];
            s[i - 1] = s[j - 1];
            s[j - 1] = t;
            for (; i < n - 1; i++, n--){
                t = s[i];
                s[i] = s[n - 1];
                s[n - 1] = t;
            }
            return 1;
        }
    for (int i = 0; i < n - 1; i++, n--){
        char *t = s[i];
        s[i] = s[n - 1];
        s[n - 1] = t;
    }
    return 0;
}
```

Compiler (5) | Resources | Compile Log | Debug | Find Results | Close

Line	Col	File	Message
32	53	C:\Users\hp\Documents\permutations.cpp	[Error] empty character constant
		C:\Users\hp\Documents\permutations.cpp	**In function 'int main()':**
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]
28	43	C:\Users\hp\Documents\permutations.cpp	[Warning] deprecated conversion from string constant to 'char*' [-Wwrite-strings]

Line: 25 Col: 14 Sel: 0 Lines: 34 Length: 950 Insert Done parsing in 0.062 seconds


Untitled2 - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
gcd of numbers.cpp lcm.cpp
#include <stdio.h>
int main() {
int n1, n2, max;
printf("Enter two positive integers: ");
scanf("%d %d", &n1, &n2);
max = (n1 > n2) ? n1 : n2;
while (1)
{
if ((max % n1 == 0) && (max % n2 == 0))
{
printf("The LCM of %d and %d is %d.", n1, n2, max);
break;
}
++max;
}
return 0;
}
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...

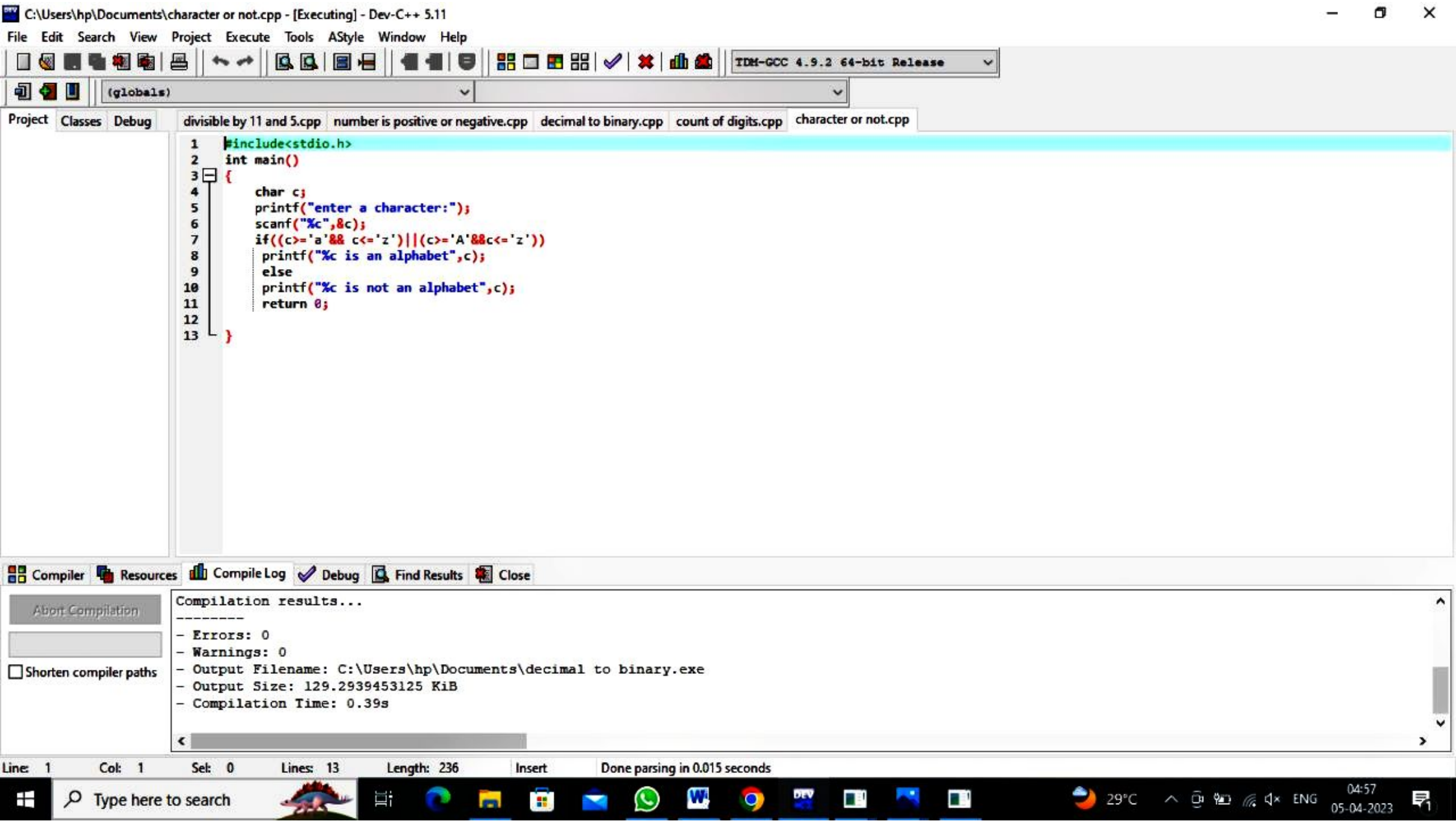
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\gcd of numbers.exe
- Output Size: 128.619140625 KiB
- Compilation Time: 0.28s
Line: 23 Col: 2 Sel: 0 Lines: 24 Length: 397 Insert Done parsing in 0.031 seconds
Type here to search
29°C Partly cloudy
ENG
21:09
06-04-2023

2. C Program to Check Whether a Number can be Expressed as Sum of Two Prime Numbers

This program takes a positive integer from the user and checks whether that number can be expressed as the sum of two prime numbers.

If the number can be expressed as the sum of two prime numbers, the output shows the combination of the prime numbers.

```
Enter a positive integer: 34
34 = 3 + 31
34 = 5 + 29
34 = 11 + 23
34 = 17 + 17
```


C:\Users\hp\Documents\character or not.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
divisible by 11 and 5.cpp
number is positive or negative.cpp
decimal to binary.cpp
count of digits.cpp
character or not.cpp
#include<stdio.h>
int main()
{
char c;
printf("enter a character:");
scanf("%c",&c);
if((c>='a'&& c<='z')||(c>='A'&&c<='z'))
printf("%c is an alphabet",c);
else
printf("%c is not an alphabet",c);
return 0;
}
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\decimal to binary.exe
- Output Size: 129.2939453125 KiB
- Compilation Time: 0.39s
Line: 1 Col: 1 Sel: 0 Lines: 13 Length: 236 Insert Done parsing in 0.015 seconds
Type here to search
29°C
ENG
04:57
05-04-2023

C:\Users\hp\Documents\decimal to binary.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

divisible by 11 and 5.cpp | number is positive or negative.cpp | decimal to binary.cpp | count of digits.cpp

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  int main(){
4  int a[10],n,i;
5  system ("cls");
6  printf("Enter the number to convert: ");
7  scanf("%d",&n);
8  for(i=0;n>0;i++)
9  {
10 a[i]=n%2;
11 n=n/2;
12 }
13 printf("\nBinary of Given Number is=");
14 for(i=i-1;i>=0;i--)
15 {
16 printf("%d",a[i]);
17 }
18 return 0;
19 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\decimal to binary.exe
- Output Size: 129.2939453125 KiB
- Compilation Time: 0.39s
```

Line: 19 Col: 4 Sel: 0 Lines: 19 Length: 355 Insert Done parsing in 0 seconds

Type here to search

29°C ENG 04:37 05-04-2023

C:\Users\hp\Documents\prime numbers10 .cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

prime numbers2.cpp | prime numbers10 .cpp

```
1   #include <stdio.h>
2   int checkPrimeNumber(int n);
3   int main()
4    {
5      int n1, n2, i, flag;
6       printf("Enter two positive integers: ");
7       scanf("%d %d", &n1, &n2);
8       if (n1 > n2)
9       {
10      n1 = n1 + n2;
11      n2 = n1 - n2;
12      n1 = n1 - n2;
13      }
14    printf("Prime numbers between %d and %d are:\n ", n1, n2);
15    for (i =n1+1;i<n2;++i)
16    {
17     flag = checkPrimeNumber(i);
18       if (flag == 1)
19        {
20        printf("%d\n",i);
21        }
22    }
23   return 0;
24  }
25  int checkPrimeNumber(int n)
26   {
```

Compiler | Resources | Compile Log | Debug | Find Results | Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\prime numbers10 .exe
- Output Size: 129.1611328125 KiB
- Compilation Time: 0.30s
```

Line: 14 Col: 61 Sel: 0 Lines: 38 Length: 630 Insert Done parsing in 0.016 seconds

Type here to search

30°C Partly cloudy ENG 20:19 06-04-2023

C:\Users\hp\Documents\prime numbers10 .cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

prime numbers2.cpp prime numbers10 .cpp

```
13      }
14    printf("Prime numbers between %d and %d are:\n ", n1, n2);
15    for (i =n1+1;i<n2;++i)
16    {
17     flag = checkPrimeNumber(i);
18      if (flag == 1)
19       {
20       printf("%d\n",i);
21       }
22    }
23   return 0;
24  }
25  int checkPrimeNumber(int n)
26   {
27    int j, flag = 1;
28    for (j=2;j<=n/2;++j)
29    {
30     if (n%j==0)
31      {
32       flag=0;
33       break;
34      }
35    }
36    return flag;
37  }
38
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hp\Documents\prime numbers10 .exe
- Output Size: 129.1611328125 KiB
- Compilation Time: 0.30s
```

Line: 14 Col: 61 Sel: 0 Lines: 38 Length: 630 Insert Done parsing in 0.016 seconds

Type here to search

30°C Partly cloudy ENG 20:19 06-04-2023