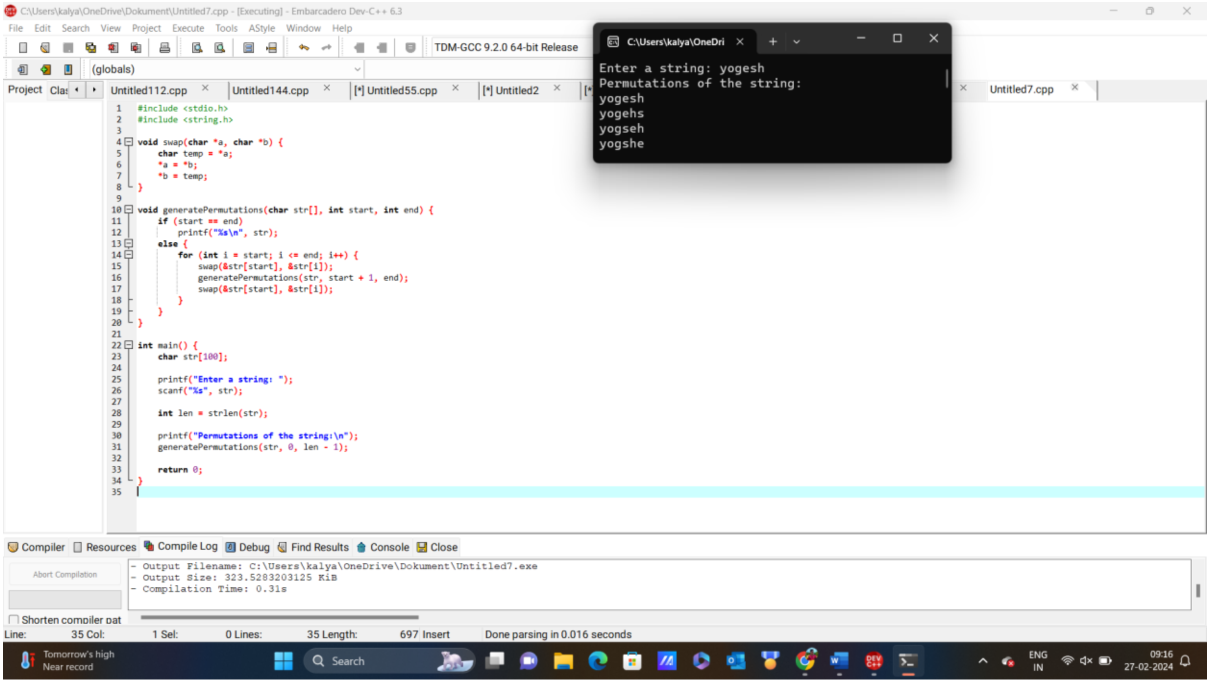
C programming

Day-5

1.reverse string


C:\Users\kalya\OneDrive\Dokument\Untitled7.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
(globals)
Project Clas
Untitled112.cpp
Untitled144.cpp
[*] Untitled55.cpp
[*] Untitled2
Untitled7.cpp
C:\Users\kalya\OneDri
Compiler Resources Compile Log Debug Find Results Console Close
Abort Compilation
Shorten compiler pat
Line: 35 Col: 1 Sel: 0 Lines: 35 Length: 697 Insert Done parsing in 0.016 seconds
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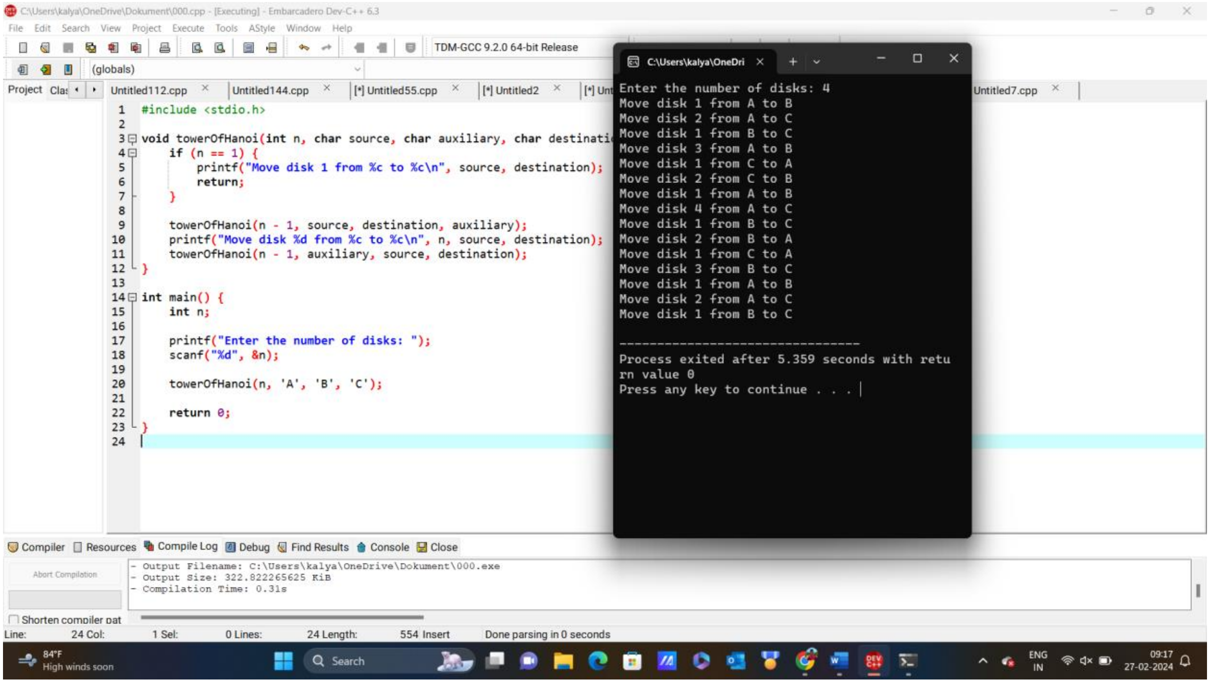
27-02-2024

```c
#include <stdio.h>
#include <string.h>

void swap(char *a, char *b) {
    char temp = *a;
    *a = *b;
    *b = temp;
}

void generatePermutations(char str[], int start, int end) {
    if (start == end)
        printf("%s\n", str);
    else {
        for (int i = start; i <= end; i++) {
            swap(&str[start], &str[i]);
            generatePermutations(str, start + 1, end);
            swap(&str[start], &str[i]);
        }
    }
}

int main() {
    char str[100];

    printf("Enter a string: ");
    scanf("%s", str);

    int len = strlen(str);

    printf("Permutations of the string:\n");
    generatePermutations(str, 0, len - 1);

    return 0;
}

```

```
Enter a string: yogesh
Permutations of the string:
yogesh
yogehs
yogseh
yogshe
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\Untitled7.exe
- Output Size: 323.5283203125 KiB
- Compilation Time: 0.31s
```

2.Tower of Honai


C:\Users\kalya\OneDrive\Dokument\000.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
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Compiler Resources Compile Log Debug Find Results Console Close
Abort Compilation
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Line: 24 Col: 1 Sel: 0 Lines: 24 Length: 554 Insert Done parsing in 0 seconds
84°F
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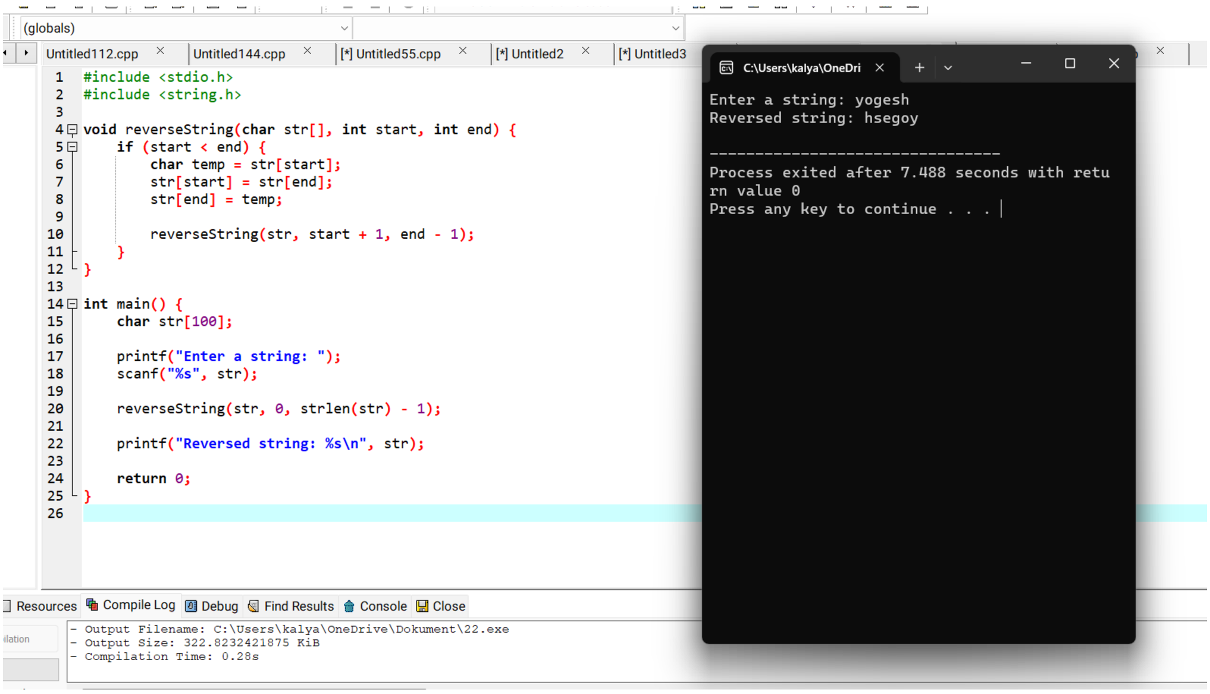
27-02-2024

```c
#include <stdio.h>

void towerOfHanoi(int n, char source, char auxiliary, char destinati
    if (n == 1) {
        printf("Move disk 1 from %c to %c\n", source, destination);
        return;
    }

    towerOfHanoi(n - 1, source, destination, auxiliary);
    printf("Move disk %d from %c to %c\n", n, source, destination);
    towerOfHanoi(n - 1, auxiliary, source, destination);
}

int main() {
    int n;

    printf("Enter the number of disks: ");
    scanf("%d", &n);

    towerOfHanoi(n, 'A', 'B', 'C');

    return 0;
}

```

```
Enter the number of disks: 4
Move disk 1 from A to B
Move disk 2 from A to C
Move disk 1 from B to C
Move disk 3 from A to B
Move disk 1 from C to A
Move disk 2 from C to B
Move disk 1 from A to B
Move disk 4 from A to C
Move disk 1 from B to C
Move disk 2 from B to A
Move disk 1 from C to A
Move disk 3 from B to C
Move disk 1 from A to B
Move disk 2 from A to C
Move disk 1 from B to C

--------------------------------
Process exited after 5.359 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\000.exe
- Output Size: 322.822265625 KiB
- Compilation Time: 0.31s
```

3.reverse string

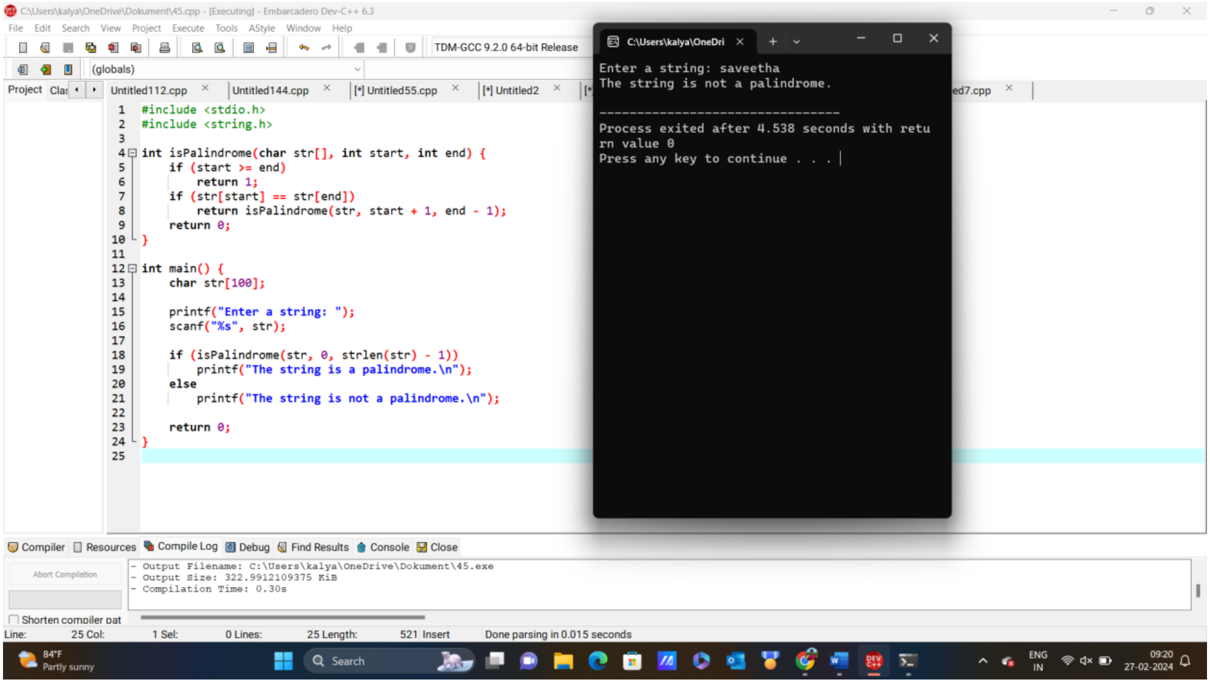


```c
#include <stdio.h>
#include <string.h>

void reverseString(char str[], int start, int end) {
    if (start < end) {
        char temp = str[start];
        str[start] = str[end];
        str[end] = temp;

        reverseString(str, start + 1, end - 1);
    }
}

int main() {
    char str[100];

    printf("Enter a string: ");
    scanf("%s", str);

    reverseString(str, 0, strlen(str) - 1);

    printf("Reversed string: %s\n", str);

    return 0;
}
```

```
Enter a string: yogesh
Reversed string: hsegoy

--------------------------------
Process exited after 7.488 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\22.exe
- Output Size: 322.8232421875 KiB
- Compilation Time: 0.28s
```

4.string palindrome or not


C:\Users\kalya\OneDrive\Dokument\45.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
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Compiler
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Close
Abort Compilation
Shorten compiler pat
Line: 25 Col: 1 Sel: 0 Lines: 25 Length: 521 Insert Done parsing in 0.015 seconds
84°F Partly sunny
Search
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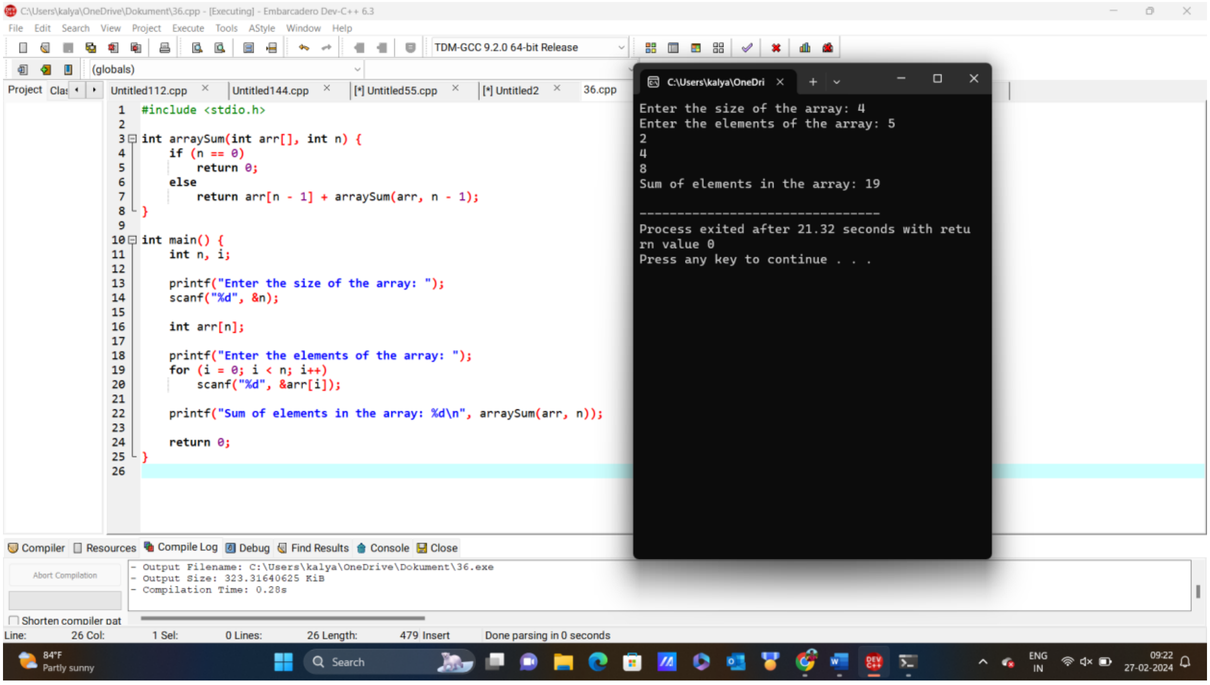
09:20 27-02-2024

```c
#include <stdio.h>
#include <string.h>

int isPalindrome(char str[], int start, int end) {
    if (start >= end)
        return 1;
    if (str[start] == str[end])
        return isPalindrome(str, start + 1, end - 1);
    return 0;
}

int main() {
    char str[100];

    printf("Enter a string: ");
    scanf("%s", str);

    if (isPalindrome(str, 0, strlen(str) - 1))
        printf("The string is a palindrome.\n");
    else
        printf("The string is not a palindrome.\n");

    return 0;
}
```

```
Enter a string: saveetha
The string is not a palindrome.

--------------------------------
Process exited after 4.538 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\45.exe
- Output Size: 322.9912109375 KiB
- Compilation Time: 0.30s
```

5. sum of elements in an array.


C:\Users\kalya\OneDrive\Dokument\36.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
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Untitled112.cpp
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C:\Users\kalya\OneDri
Compiler Resources Compile Log Debug Find Results Console Close
Abort Compilation
Shorten compiler pat
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```c
#include <stdio.h>

int arraySum(int arr[], int n) {
    if (n == 0)
        return 0;
    else
        return arr[n - 1] + arraySum(arr, n - 1);
}

int main() {
    int n, i;

    printf("Enter the size of the array: ");
    scanf("%d", &n);

    int arr[n];

    printf("Enter the elements of the array: ");
    for (i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    printf("Sum of elements in the array: %d\n", arraySum(arr, n));

    return 0;
}
```

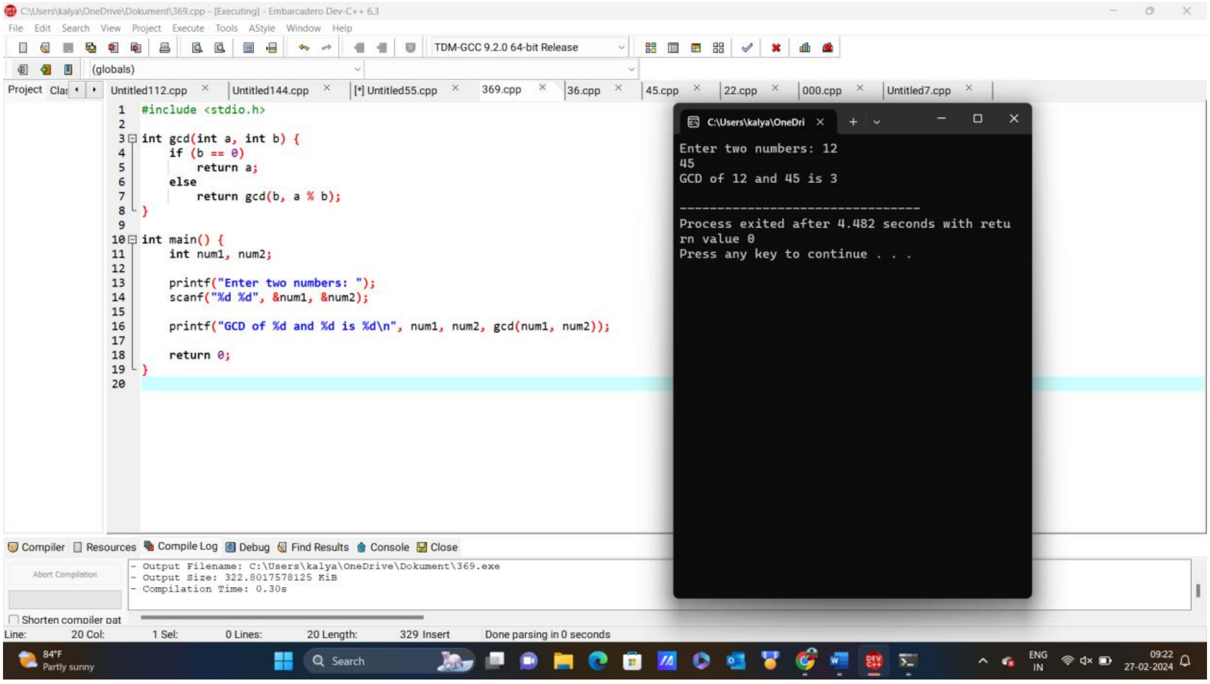
```
Enter the size of the array: 4
Enter the elements of the array: 5
2
4
8
Sum of elements in the array: 19

--------------------------------
Process exited after 21.32 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\36.exe
- Output Size: 323.31640625 KiB
- Compilation Time: 0.28s
```

Line: 26 Col: 1 Sel: 0 Lines: 26 Length: 479 Insert Done parsing in 0 seconds

6.gcd of two numbers.


C:\Users\kalya\OneDrive\Dokument\369.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
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Compiler Resources Compile Log Debug Find Results Console Close
Abort Compilation
Shorten compiler pat
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```c
#include <stdio.h>

int gcd(int a, int b) {
    if (b == 0)
        return a;
    else
        return gcd(b, a % b);
}

int main() {
    int num1, num2;

    printf("Enter two numbers: ");
    scanf("%d %d", &num1, &num2);

    printf("GCD of %d and %d is %d\n", num1, num2, gcd(num1, num2));

    return 0;
}
```

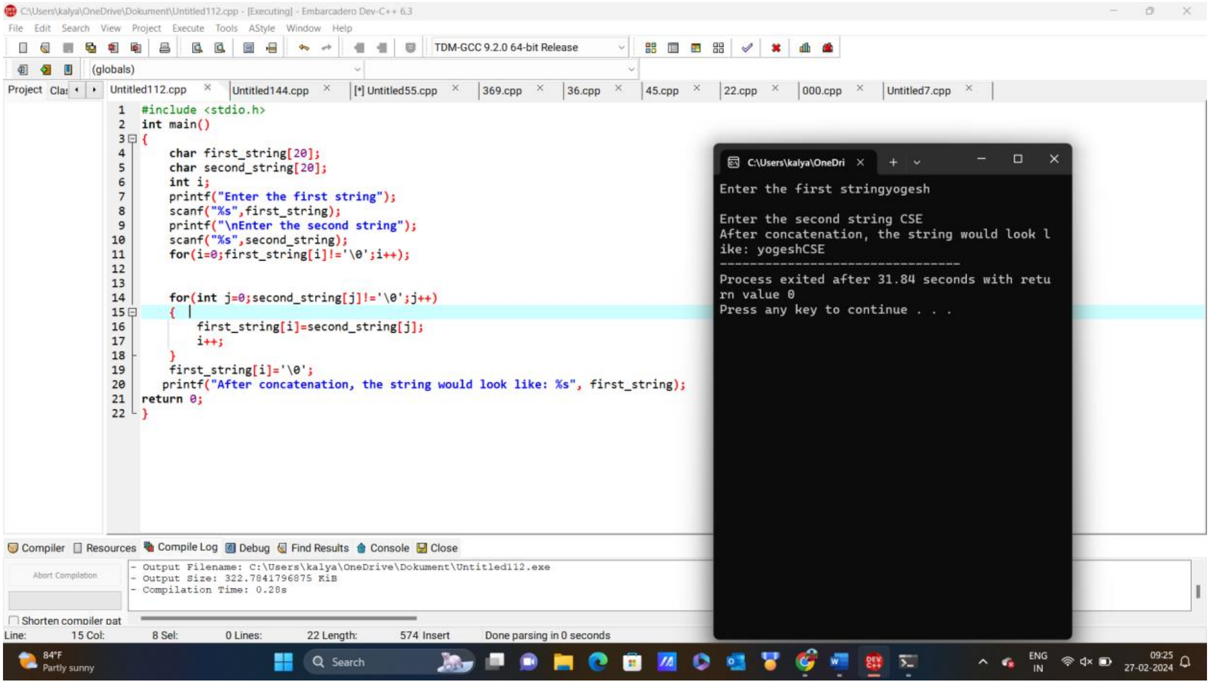
```
Enter two numbers: 12
45
GCD of 12 and 45 is 3

--------------------------------
Process exited after 4.482 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\369.exe
- Output Size: 322.8017578125 KiB
- Compilation Time: 0.30s
```

Line: 20 Col: 1 Sel: 0 Lines: 20 Length: 329 Insert Done parsing in 0 seconds

7.combination of strings



C:\Users\kalya\OneDrive\Dokument\Untitled112.cpp - [Executing] - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
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Untitled112.cpp
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45.cpp
22.cpp
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Untitled7.cpp

```c
#include <stdio.h>
int main()
{
    char first_string[20];
    char second_string[20];
    int i;
    printf("Enter the first string");
    scanf("%s",first_string);
    printf("\nEnter the second string");
    scanf("%s",second_string);
    for(i=0;first_string[i]!='\0';i++);


    for(int j=0;second_string[j]!='\0';j++)
    {
        first_string[i]=second_string[j];
        i++;
    }
    first_string[i]='\0';
   printf("After concatenation, the string would look like: %s", first_string);
return 0;
}
```

```
Enter the first stringyogesh

Enter the second string CSE
After concatenation, the string would look l
ike: yogeshCSE
--------------------------------
Process exited after 31.84 seconds with retu
rn value 0
Press any key to continue . . .
```

```
- Output Filename: C:\Users\kalya\OneDrive\Dokument\Untitled112.exe
- Output Size: 322.7841796875 KiB
- Compilation Time: 0.28s
```

Line: 15 Col: 8 Sel: 0 Lines: 22 Length: 574 Insert Done parsing in 0 seconds
84°F
Partly sunny
Search
ENG
IN
09:25
27-02-2024