

File Edit Selection View Go Run Terminal Help

1.cpp - Visual Studio Code

1.cpp

C/C++: g++.exe build a

D:\> OODP > OOPS_week_Assignment.tar > OOPS_week_Assignment > OOPS_week_Assignment > 1.cpp > main()

```
1  /*
2  1. Write a C++ program that will display the calculator menu. The program will prompt the user to choose the operation choice (from 1 to 5). Then it asks the user to input two integer vales for the calculation. See the sample below.
3  MENU 1. Add 2. Subtract 3. Multiply 4. Divide 5. Modulus
4  */
5
6  #include <iostream>
7  using namespace std;
8
9  int main()
10 {
11     int choice, a, b;
12     while (true)
13     {
14         string str = "\t*****MENU*****\n1) ADD\n2) SUBTRACT\n3) MULTIPLY\n4) DIVIDE\n5) MODULUS\n\t*****";
15
16         cout << str << endl;
17         << "Enter Your Choice :- ";
18         cin >> choice;
19
20         cout << "Enter first number : ";
21         cin >> a;
22
23         cout << "Enter second number : ";
24         cin >> b;
25
26         switch (choice)
27         {
28             case 1:
29                 cout << "Result : " << a + b << endl;
30                 break;
31             case 2:
32                 cout << "Result : " << a - b << endl;
33                 break;
34             case 3:
35                 cout << "Result : " << a * b << endl;
36                 break;
37             case 4:
38                 cout << "Result : " << a / b << endl;
39                 break;
40             case 5:
41                 cout << "Result : " << a % b << endl;
42                 break;
43         }
44
45         char ch;
46         cout << "Want To Retry?(Y/N) : ";
47         cin >> ch;
48         if (ch != 'Y')
49         {
50             break;
51         }
52     }
53     return 0;
54 }
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

```
rpreter=mi'
2) SUBTRACT
3) MULTIPLY
4) DIVIDE
5) MODULUS
*****
Enter Your Choice :- 1
Enter first number : 9
Enter second number : 8
Result : 17
Want To Retry?(Y/N) : N
```

cpp.exe ...

cppdbg: 1.e...

cppdbg: 1.e...

master* 0 0 Reconnect to Discord

Ln 54, Col 22 Spaces: 4 UTF-8 LF C++ Go Live Win32

30°C Partly cloudy

ENG IN 11:11 PM 9/10/2022

FileEditSelectionViewGoRunTerminalHelp

w2-1.cpp - Visual Studio Code

1.cpp2.cppw2-1.cpp

||?↓↑C/C++: g++.exe build a

D: > OODP > OOPS_week_Assignment.tar > OOPS_week_Assignment > OOPS_week_Assignment > OOPS_2 > C++ w2-1.cpp > ...

```
1  /* Write a C++ program to print whether the given number is positive number or negative number. */
2
3  #include <iostream>
4  using namespace std;
5  int main()
6  {
7      float num;
8      cout << "Enter a number : ";
9      cin >> num;
10     if (num > 0)
11         cout << "The number is positive";
12     else if (num < 0)
13         cout << "The number is negative";
14     return 0;
15 }
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINAL

Windows PowerShell
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PS C:\Users\Asus> & 'c:\Users\Asus\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-shhfcrhn.kyq' '--stdout=Microsoft-MIEngine-Out-yuwxmg4.syd' '--stderr=Microsoft-MIEngine-Error-z5mz1dlt.aul' '--pid=Microsoft-MIEngine-Pid-cse0frx1.pbq' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--interpreter=mi'
Enter a number : -5
The number is negative
PS C:\Users\Asus>

+ ^ v ^ x

g++.exe... ✓
cpdbg: 1.e...
cpdbg: 1.e...
cpdbg: 2.e...
cpdbg: w2...

master* 0 0 0 Reconnect to Discord

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

30°C Partly cloudy

ENG IN 11:14 PM 9/10/2022 41

FileEditSelectionViewGoRunTerminalHelp

w2-2.cpp - Visual Studio Code

1.cpp2.cppw2-1.cppw2-2.cpp

||?↓↑C/C++: g++.exe build a

D:\> OODP > OODP_week_Assignment.tar > OODP_week_Assignment > OODP_week_Assignment > OODP_2 > C++ w2-2.cpp > ...

```
1  /* Write C++ program to find if an integer is positive, negative or zero // using nested if statements */
2
3  #include <iostream>
4  using namespace std;
5  int main()
6  {
7      int num;
8      cout << "Enter a number : ";
9      cin >> num;
10     if (num >= 1)
11     {
12         cout << "The number is POSITIVE";
13     }
14     if (num < 1)
15     {
16         if (num == 0)
17         {
18             cout << "The number is ZERO";
19         }
20         else
21         {
22             cout << "The number is NEGATIVE";
23         }
24     }
25     return 0;
26 }
```

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Windows PowerShell
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PS C:\Users\Asus> & 'c:\Users\Asus\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-5nmvqtf2.kli' '--stdout=Microsoft-MIEngine-Out-pm0uhrrii.pxa' '--stderr=Microsoft-MIEngine-Error-wmlhdoum.jro' '--pid=Microsoft-MIEngine-Pid-2lclqylk.djl' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--interpreter=mi'
Enter a number : 6
The number is POSITIVE
PS C:\Users\Asus> |

g++.exe... ✓
cppdbg: 1.e...
cppdbg: 1.e...
cppdbg: 2.e...
cppdbg: w2...
cppdbg: w2...

master* 0 0 0 Reconnect to Discord

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

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99+2

99

ENG IN 11:14 PM 9/10/2022 41

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w2-3.cpp - Visual Studio Code

1.cpp 2.cpp w2-1.cpp w2-2.cpp w2-3. C/C++: g++.exe build a

D:\> OODP > OOPS_week_Assignment.tar > OOPS_week_Assignment > OOPS_week_Assignment > OOPS_2 > C++ w2-3.cpp > ...

```
1  /* Write a program to checks whether a year (integer) entered by the user is a leap year or not. Using if...else Ladder */
2
3  #include <iostream>
4  using namespace std;
5
6  int main()
7  {
8      int year;
9      cout<<"Enter a year to check : ";
10     cin>>year;
11     if ((year % 4 == 0) && (year % 100 != 0)) || (year % 400 == 0)){
12         cout<<"The year is leap year:";
13     }
14     else{
15         cout<<"The year is NOT a leap year";
16     }
17
18     return 0;
19 }
```

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Enter a year to check : 2016
The year is leap year:
PS C:\Users\Asus>

g++.exe... ✓
cppdbg: 1.e...
cppdbg: 1.e...
cppdbg: 2.e...
cppdbg: w2...
cppdbg: w2...
cppdbg: w2...

master* 0 0 0 Reconnect to Discord

Ln 1, Col 1 Spaces: 3 UTF-8 LF C++ Go Live Win32

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11:15 PM 9/10/2022

File Edit Selection View Go Run Terminal Help

w2-4.cpp - Visual Studio Code

C++ 1.cpp C++ 2.cpp C++ w2-1.cpp C++ w2-2.cpp C++ w2-3. C/C++: g++.exe build a

D:\> OODP > OOPS_week_Assignment.tar > OOPS_week_Assignment > OOPS_week_Assignment > OOPS_2 > C++ w2-4.cpp > ...

```
1  /*Write C++ program to find the sum of positive numbers, if the user enters a negative numbers, break ends the loop the negative number ente
2
3  #include<iostream>
4  using namespace std;
5  int main()
6  {
7      int num,sum=0;
8      while(true){
9          cout<<"Enter a number to be added : ";
10         cin>>num;
11         if (num<0){
12             break;
13         }
14         sum+=num;
15     }
16     cout<<"The sum is : "<<sum;
17     return 0;
18 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

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tdout=Microsoft-MIEngine-Out-agjajyzb.ynu' '--stderr=Microsoft-MIEngine-Error-sxqxn1y.i4v' '--pid=Microsoft-MIEngine-Pid-dxfd1zbn.gvz' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--inte
rpreter=mi'
Enter a number to be added : 8
Enter a number to be added : -4
The sum is : 8
PS C:\Users\Asus>

+ ^ x

g++.exe... ✓

cppdbg: 1.e...

cppdbg: 1.e...

cppdbg: 2.e...

cppdbg: w2...

cppdbg: w2...

cppdbg: w2...

cppdbg: w2...

master* 0 0 0 Reconnect to Discord

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

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ENG IN

11:16 PM 9/10/2022

FileEditSelectionViewGoRunTerminalHelp

w2-6.cpp - Visual Studio Code

1.cpp2.cppw2-1.cppw2-2.cppw2-3.C/C++: g++.exe build a

D:\>OODP>OOPS_week_Assignment.tar>OOPS_week_Assignment>OOPS_week_Assignment>OOPS_2>C++ w2-6.cpp > ...

```
1  /* Write a program to find the prime numbers between 100 to 500. */
2
3  #include <iostream>
4  using namespace std;
5  int main()
6  {
7      int number = 101;
8      while (number < 500)
9      {
10         int flag = 0;
11         for (int i = 2; i < number; i++)
12         {
13             if (number % i == 0)
14             {
15                 flag = 1;
16                 break;
17             }
18         }
19         if (flag == 0)
20         {
21             cout << number << ", ";
22         }
23         number++;
24     }
25     return 0;
26 }
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINAL

101,103,107,109,113,127,131,137,139,149,151,157,163,167,173,179,181,191,193,197,199,211,223,227,229,233,239,241,251,257,263,269,271,277,281,283,293,307,311,313,317,331,337,347,349,353,359,367,373,379,383,389,397,401,409,419,421,431,433,439,443,449,457,461,463,467,479,487,491,499,
PS C:\Users\Asus>

+ ^ x
g++.exe...
cpdbg: 1.e...
cpdbg: 1.e...

master* 0 0 0 Reconnect to Discord

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

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ENG IN 11:16 PM 9/10/2022

Visual Studio Code interface showing a C++ program to find the largest element of an array.

File Explorer: 1.cpp, 2.cpp, w2-1.cpp, w2-2.cpp, w2-3, w2-II-1.cpp

Terminal Output:

```
D:\> OODP > OOPS_week_Assignment.tar > OOPS_week_Assignment > OOPS_week_Assignment > OOPS_2 > C++ w2-II-1.cpp > ...  
1  /* Write a C++ program to find the largest element of a given array of integers */  
2  
3  #include <iostream>  
4  using namespace std;  
5  
6  int main(){  
7      int n,i;  
8      cout<<"Enter The Length Of Array : ";  
9      cin>>n;  
10     int a[n];  
11     for(i=0;i<n;i++){  
12         cout<<"Enter The Element : "<<"a["<<i<<" ] ";  
13         cin>>a[i];  
14     }  
15  
16     int biggest=a[0];  
17     for (i=1;i<n;i++){  
18         if(a[i]>biggest){  
19             biggest=a[i];  
20         }  
21     }  
22     cout<<"The largest Element Is : "<<biggest;  
23     return 0;  
24 }
```

Terminal Output:

```
PS C:\Users\Asus> & 'c:\Users\Asus\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-dgw1p1kz.twb' '--stdout=Microsoft-MIEngine-Out-rkolwh44.zts' '--stderr=Microsoft-MIEngine-Error-1ng2fz0x.ltr' '--pid=Microsoft-MIEngine-Pid-p01wje00.xhv' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--interpreter=mi'  
Enter The Length Of Array : 5  
Enter The Element : a[0] 13  
Enter The Element : a[1] 5  
Enter The Element : a[2] 7  
Enter The Element : a[3] 21  
Enter The Element : a[4] 2  
The largest Element Is : 21  
PS C:\Users\Asus>
```

System Tray: 30°C Partly cloudy, Windows taskbar, 11:17 PM 9/10/2022

FileEditSelectionViewGoRunTerminalHelp

w2-11-10.cpp - Visual Studio Code

1.cpp2.cppw2-1.cppw2-2.cppw2-3.cppw2-11-10.cpp

C/C++: g++.exe build a

D:\>OODP>OOPS_week_Assignment.tar>OOPS_week_Assignment>OOPS_week_Assignment>OOPS_2>C++ w2-11-10.cpp > ...

```
1  /* 10. Write a program using functions to implement Fibonacci series. */
2
3  #include <iostream>
4
5  using namespace std;
6
7  int main(){
8      int n,first=0,second=1,third;
9      cout<<"Enter The Number : ";
10     cin>>n;
11     n-=2;
12     cout<<first<<" "<<second;
13     while(n--){
14         third=first+second;
15         first=second;
16         second=third;
17         cout<<" "<<third;
18     }
19     return 0;
20 }
```

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PS C:\Users\Asus> & 'c:\Users\Asus\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-o3stfs2k.1z2' '--stdout=Microsoft-MIEngine-Out-dhd5h5d4.wnz' '--stderr=Microsoft-MIEngine-Error-gto2h5fh.fbe' '--pid=Microsoft-MIEngine-Pid-mguhphbh.kst' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--interpreter=mi'
Enter The Number : 5
0 1 1 2 3
PS C:\Users\Asus>

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

30°C
Partly cloudy

ENG IN 11:17 PM 9/10/2022

FileEditSelectionViewGoRunTerminalHelp

w2-II-13.cpp - Visual Studio Code

1.cpp2.cppw2-1.cppw2-2.cppw2-3.cppw2-II-10.cppw2-II-13.cpp

C/C++: g++.exe build a

D:\>OODP>OOPS_week_Assignment.tar>OOPS_week_Assignment>OOPS_week_Assignment>OOPS_2>C++ w2-II-13.cpp

```
1  /*Write a program using recursive function to find factorial of given number. */
2
3  #include <iostream>
4  using namespace std;
5
6  int factorial(int);
7
8  int main()
9  {
10     int number = 1;
11     cout << "Enter The Number : ";
12     cin >> number;
13     cout << "The Factorial is : " << factorial(number);
14     return 0;
15 }
16
17 int factorial(int number)
18 {
19     if (number > 1)
20         return number * factorial(number - 1);
21     else
22         return 1;
23 }
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINAL

Windows PowerShell
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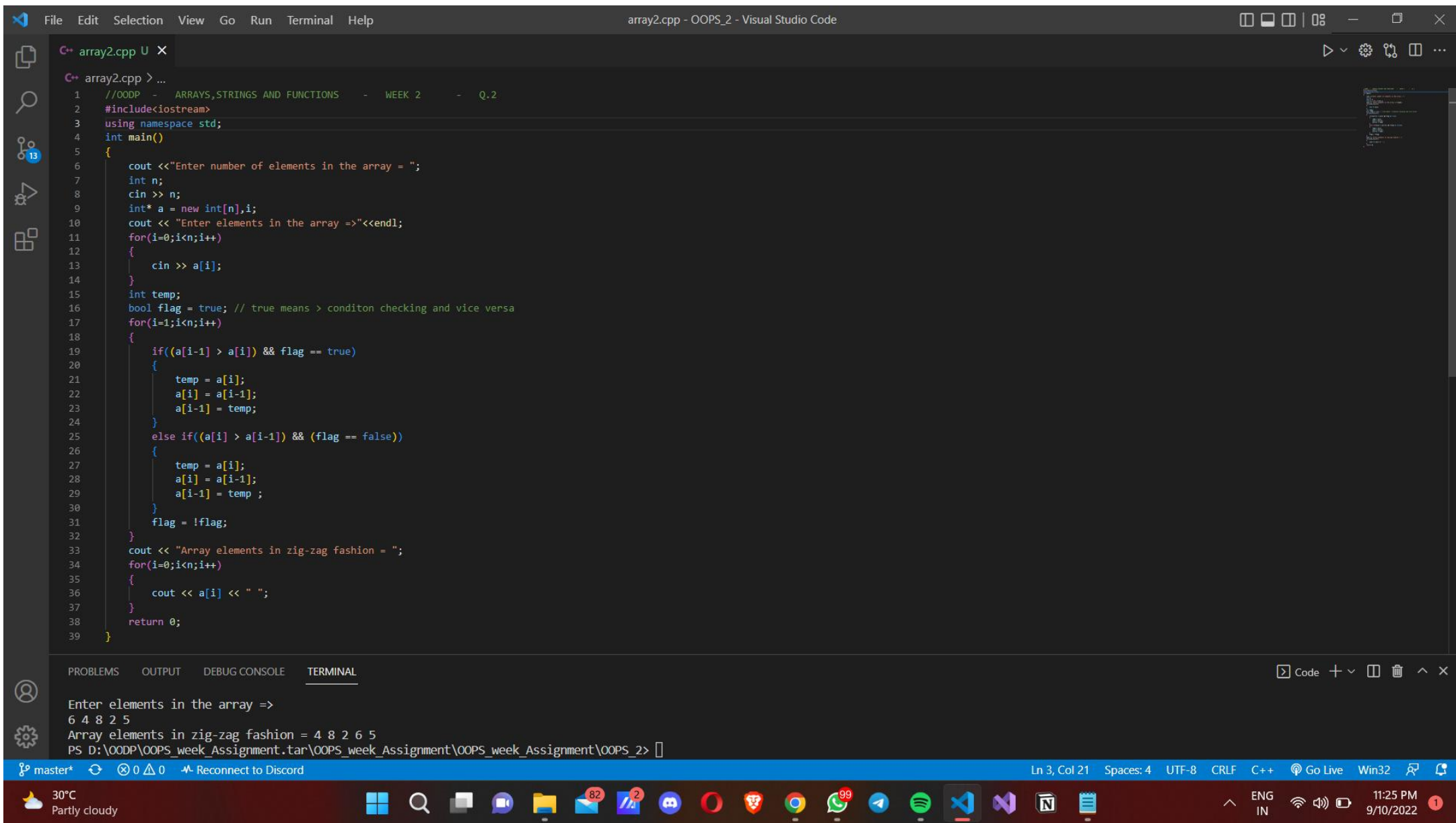
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PS C:\Users\Asus> & 'c:\Users\Asus\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin\WindowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-av1334uh.sh4' '--stdout=Microsoft-MIEngine-Out-puoj3pdm.ynp' '--stderr=Microsoft-MIEngine-Error-xa2fwjb4.zhs' '--pid=Microsoft-MIEngine-Pid-cezn4fjn.eub' '--dbgExe=C:\msys64\mingw64\bin\gdb.exe' '--interpreter=mi'
Enter The Number : 6
The Factorial is : 720
PS C:\Users\Asus>

Ln 1, Col 1 Spaces: 4 UTF-8 LF C++ Go Live Win32

30°C
Partly cloudy

ENG IN 11:18 PM 9/10/2022



Visual Studio Code interface showing a C++ program in `array5.cpp` and its execution in the terminal.

Code Editor:

```
array5.cpp > main()
1 //OOP - ARRAYS,STRINGS AND FUNCTIONS - WEEK 2 - Q.5
2
3 #include<iostream>
4 #include<cstring>
5 using namespace std;
6
7 int main()
8 {
9     string s1;
10    cout << "Enter a string : ";
11    getline(cin,s1);
12    int dec,i,l = s1.length();
13    char change;
14    for(i=0;i<l;i++)
15    {
16        change = (char)s1[i];
17        dec = (int)change;
18        if(dec == 122)
19            dec = 97;
20        else if(dec == 90)
21            dec = 65;
22        else
23            dec++;
24        change = (char)dec;
25        s1[i] = change;
26    }
27    cout << "Modified String = " << s1;
28 }
```

Terminal:

```
> cd "d:\OOP\OOPS_week_Assignment.tar\OOPS_week_Assignment\OOPS_week_Assignment\OOPS_2\" ; if ($?) { g++ array5.cpp
-o array5 } ; if ($?) { .\array5 }
Enter a string : aditya
Modified String = bejuzb
PS D:\OOP\OOPS_week_Assignment.tar\OOPS_week_Assignment\OOPS_week_Assignment\OOPS_2>
```

System Tray: 30°C Partly cloudy, 11:30 PM 9/10/2022.

Visual Studio Code interface showing a C++ program in `array6.cpp` and its execution in the terminal.

File Explorer: `array2.cpp`, `array3.cpp`, `array5.cpp`, `array6.cpp`

Code Editor:

```
1 //OOP - ARRAYS, STRINGS AND FUNCTIONS - WEEK 2 - Q.6
2
3 #include<iostream>
4
5 using namespace std;
6
7 int main()
8 {
9     std::cout << "Enter a string = ";
10    string sent;
11    getline(cin, sent);
12    int i, str_l = sent.length();
13    int dec, dec2;
14    char c, c2;
15    for(i=0; i<str_l; i++)
16    {
17        c = (char)sent[i];
18        c2 = (char)sent[i+1];
19        dec = (int)c;
20        dec2 = (int)c2;
21        if((i==0) && (dec >= 97 && dec <= 122))
22        {
23            dec = dec - 32;
24            c = (char)dec;
25            sent[i] = c;
26        }
27        else if((dec == 32) && (dec2 >= 97 && dec2 <= 122))
28        {
29            dec2 = dec2 - 32;
30            c2 = (char)dec2;
31            sent[i+1] = c2;
32        }
33    }
34    std::cout << "Modified String = " << sent;
35    return 0;
36 }
```

Terminal:

```
> cd "d:\OOP\OOPS_week_Assignment.tar\OOPS_week_Assignment\OOPS_week_Assignment\OOPS_2\" ; if ($?) { g++ array6.cpp
-o array6 } ; if ($?) { .\array6 }
Enter a string = aditya
Modified String = Aditya
PS D:\OOP\OOPS_week_Assignment.tar\OOPS_week_Assignment\OOPS_week_Assignment\OOPS_2>
```

Status Bar: master* | 2 | 0 | Reconnect to Discord | Ln 36, Col 2 | Spaces: 4 | UTF-8 | CRLF | C++ | Go Live | Win32

System Tray: 30°C Partly cloudy | 11:30 PM 9/10/2022

