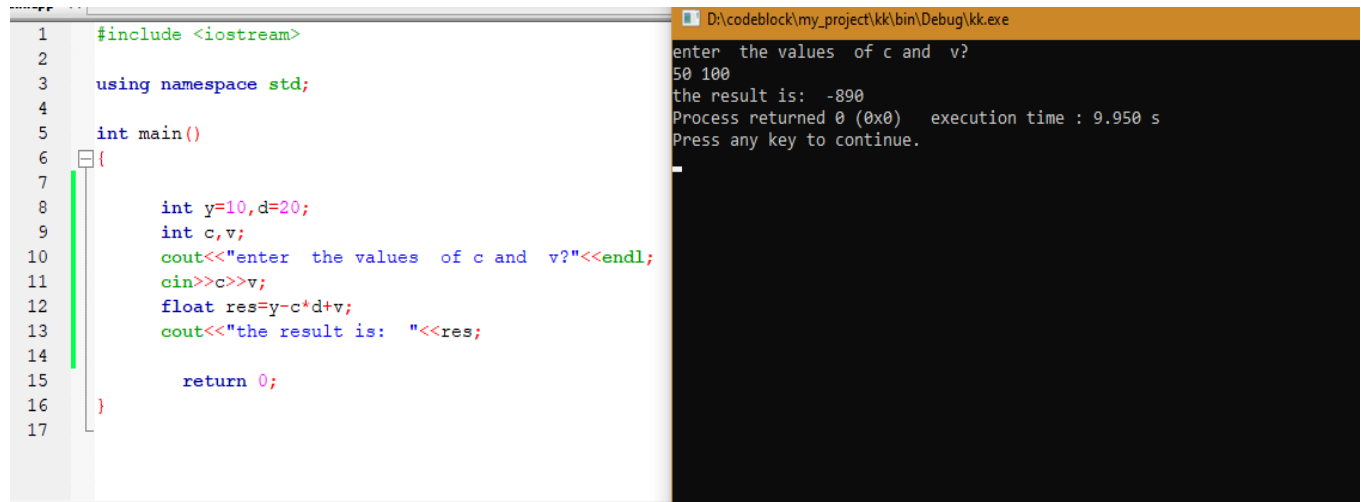


Answers

1- Write a program to Solve the following formula:
 $y - cd + v$ where $y=10$, $d=20$, Enter the c and v values during the program execution?



The screenshot shows a C++ program in a code editor and its execution output in a terminal window. The program calculates the result of the formula $y - cd + v$ with $y=10$ and $d=20$. It prompts the user to enter values for c and v . In the terminal, the user enters 50 and 100, resulting in -890.

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7
8     int y=10,d=20;
9     int c,v;
10    cout<<"enter the values of c and v?"<<endl;
11    cin>>c>>v;
12    float res=y-c*d+v;
13    cout<<"the result is: "<<res;
14
15    return 0;
16 }
17
```

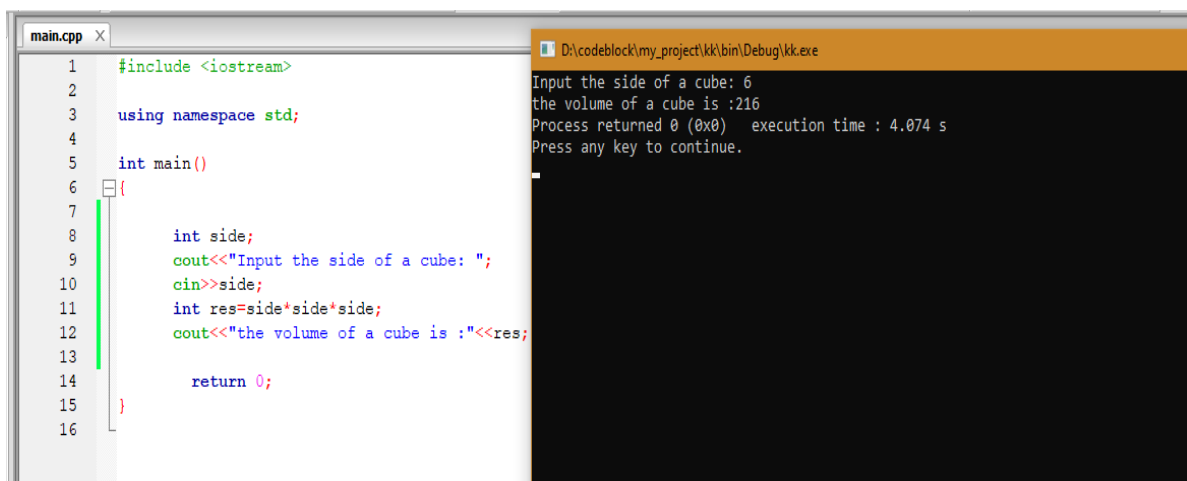
Output:

```
D:\codeblock\my_project\kk\bin\Debug\kk.exe
enter the values of c and v?
50 100
the result is: -890
Process returned 0 (0x0) execution time : 9.950 s
Press any key to continue.
```

2- Write a program in C++ to calculate the volume of a cube?

Input the side of a cube: 5

Volume= $side^3$



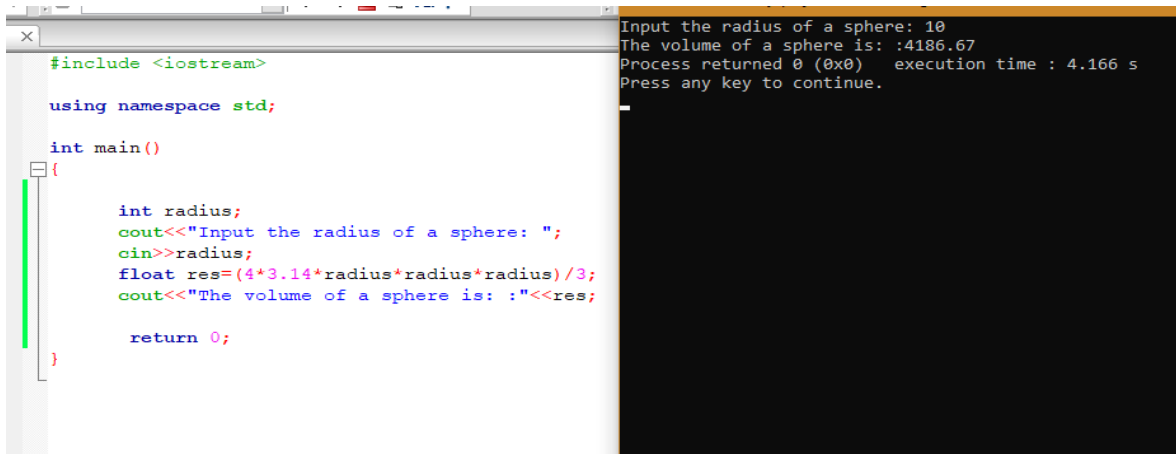
The screenshot shows a C++ program in a code editor and its execution output in a terminal window. The program calculates the volume of a cube by taking the side length as input. In the terminal, the user enters 6, resulting in a volume of 216.

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7
8     int side;
9     cout<<"Input the side of a cube: ";
10    cin>>side;
11    int res=side*side*side;
12    cout<<"the volume of a cube is : "<<res;
13
14    return 0;
15 }
16
```

Output:

```
D:\codeblock\my_project\kk\bin\Debug\kk.exe
Input the side of a cube: 6
the volume of a cube is :216
Process returned 0 (0x0) execution time : 4.074 s
Press any key to continue.
```

3-Write a program in C++ to calculate the volume of a sphere



The screenshot shows a C++ program in a code editor and its execution output. The code defines a variable 'radius' and prompts the user to input its value. It then calculates the volume of a sphere using the formula $V = \frac{4}{3} \pi r^3$ and displays the result. The execution output shows the user inputting 10, resulting in a volume of 4186.67.

```
#include <iostream>

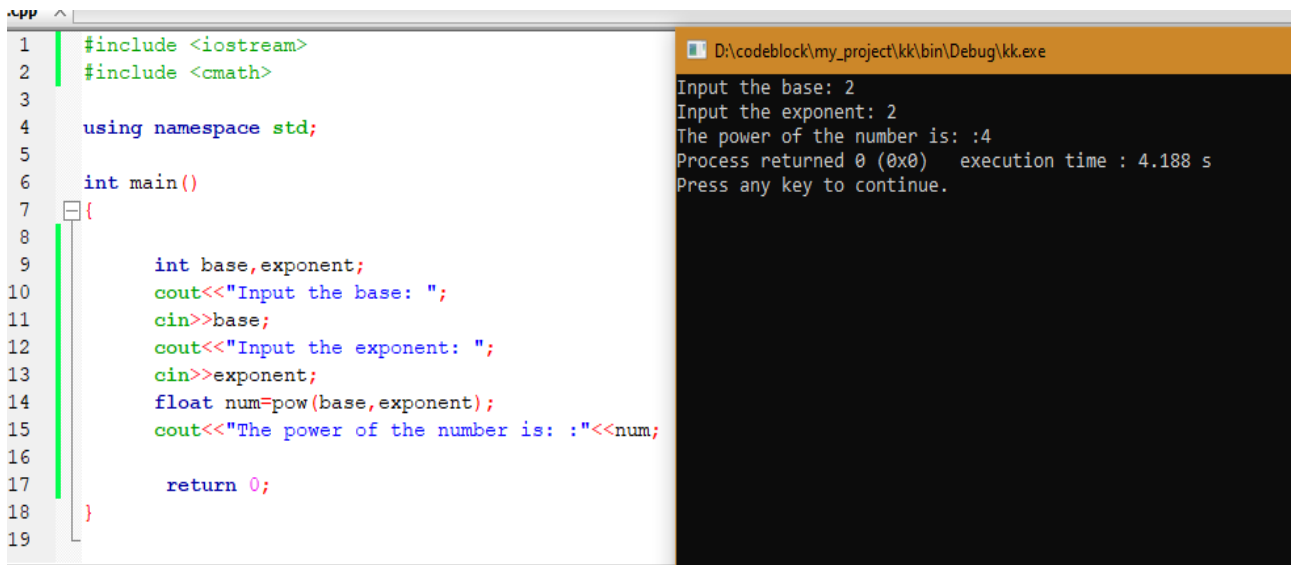
using namespace std;

int main()
{
    int radius;
    cout<<"Input the radius of a sphere: ";
    cin>>radius;
    float res=(4*3.14*radius*radius*radius)/3;
    cout<<"The volume of a sphere is: "<<res;

    return 0;
}
```

Input the radius of a sphere: 10
The volume of a sphere is: :4186.67
Process returned 0 (0x0) execution time : 4.166 s
Press any key to continue.

4-Write a program in C++ to find power)² (any number ?
Note: user will input the base and exponent numbers.



The screenshot shows a C++ program in a code editor and its execution output. The code defines variables 'base' and 'exponent', prompts the user for input, and then calculates the power of the base using the 'pow' function from the <cmath> library. The execution output shows the user inputting base 2 and exponent 2, resulting in a power of 4.

```
1 #include <iostream>
2 #include <cmath>
3
4 using namespace std;
5
6 int main()
7 {
8
9     int base,exponent;
10    cout<<"Input the base: ";
11    cin>>base;
12    cout<<"Input the exponent: ";
13    cin>>exponent;
14    float num=pow(base,exponent);
15    cout<<"The power of the number is: "<<num;
16
17    return 0;
18 }
19
```

D:\codeblock\my_project\kk\bin\Debug\kk.exe
Input the base: 2
Input the exponent: 2
The power of the number is: :4
Process returned 0 (0x0) execution time : 4.188 s
Press any key to continue.

5-Write a program in C++ to calculate the volume of a cylinder.

```
int main()
{
    int rad1,hgt;
    float volcy;
    cout << "\n\n Calculate the volume of a cylinder :\n";
    cout << "-----\n";
    cout<<" Input the radius of the cylinder : ";
    cin>>rad1;
    cout<<" Input the height of the cylinder : ";
    cin>>hgt;
    volcy=(3.14*rad1*rad1*hgt);
    cout<<" The volume of a cylinder is : "<< volcy << endl;
    cout << endl;
    return 0;
}
```

Calculate the volume of a cylinder :

Input the radius of the cylinder : 7
Input the height of the cylinder : 15
The volume of a cylinder is : 2307.9

Process returned 0 (0x0) execution time : 10.536 s
Press any key to continue.

6- Write a program in C++ to find Size of fundamental data types.

```
int main()
{
    cout << "\n\n Find Size of fundamental data types :\n";
    cout << "-----\n";
    cout << " The size of(char) is : " << sizeof(char) << " bytes \n" ;
    cout << " The size of(short) is : " << sizeof(short) << " bytes \n" ;
    cout << " The size of(int) is : " << sizeof(int) << " bytes \n" ;
    cout << " The size of(long) is : " << sizeof(long) << " bytes \n" ;
    cout << " The size of(long long) is : " << sizeof(long long) << " bytes \n";
    cout << " The size of(float) is : " << sizeof(float) << " bytes \n" ;
    cout << " The size of(double) is : " << sizeof(double) << " bytes \n";
    cout << " The size of(long double) is : " << sizeof(long double) << " bytes \n";
    cout << " The size of(bool) is : " << sizeof(bool) << " bytes \n\n";
}
```

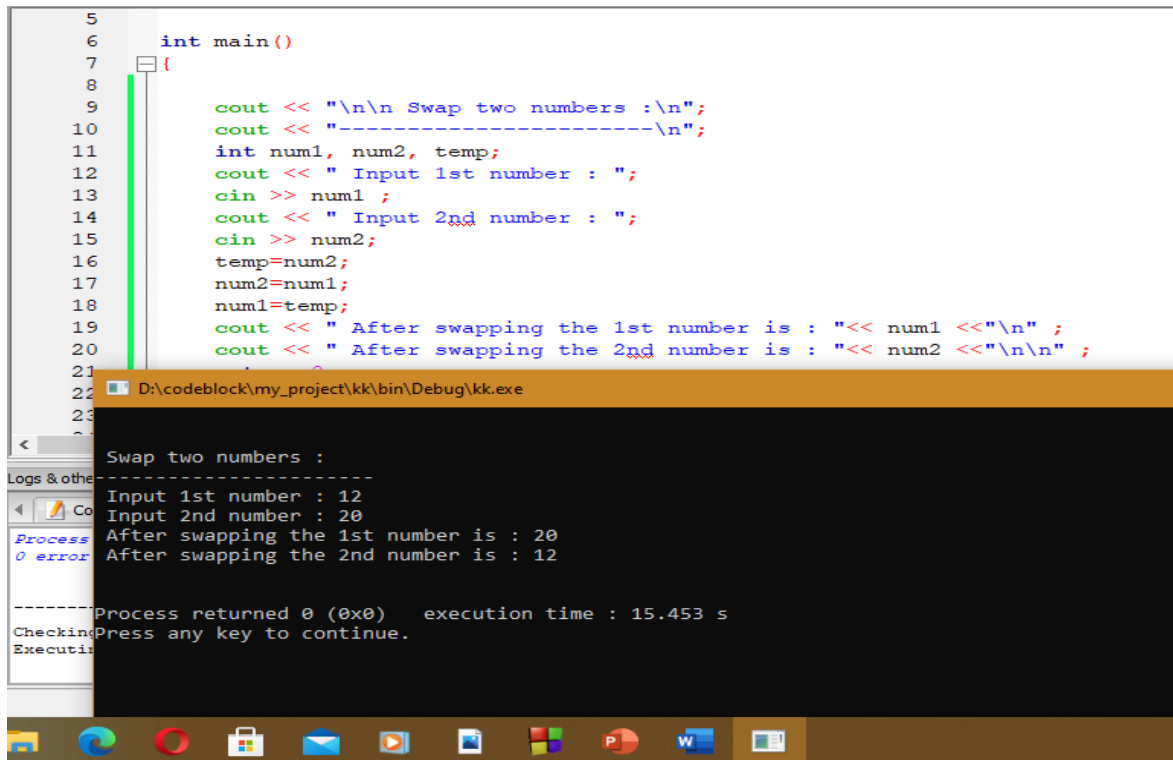
Find Size of fundamental data types :

The size of(char) is : 1 bytes
The size of(short) is : 2 bytes
The size of(int) is : 4 bytes
The size of(long) is : 4 bytes
The size of(long long) is : 8 bytes
The size of(float) is : 4 bytes
The size of(double) is : 8 bytes
The size of(long double) is : 12 bytes
The size of(bool) is : 1 bytes

Process returned 0 (0x0) execution time : 0.848 s

7- Write a program in C++ to swap two numbers?

```
5
6   int main()
7   {
8
9       cout << "\n\n Swap two numbers : \n";
10      cout << "-----\n";
11      int num1, num2, temp;
12      cout << " Input 1st number : ";
13      cin >> num1 ;
14      cout << " Input 2nd number : ";
15      cin >> num2;
16      temp=num2;
17      num2=num1;
18      num1=temp;
19      cout << " After swapping the 1st number is : "<< num1 << "\n" ;
20      cout << " After swapping the 2nd number is : "<< num2 << "\n\n" ;
21
22
23
```



Swap two numbers :

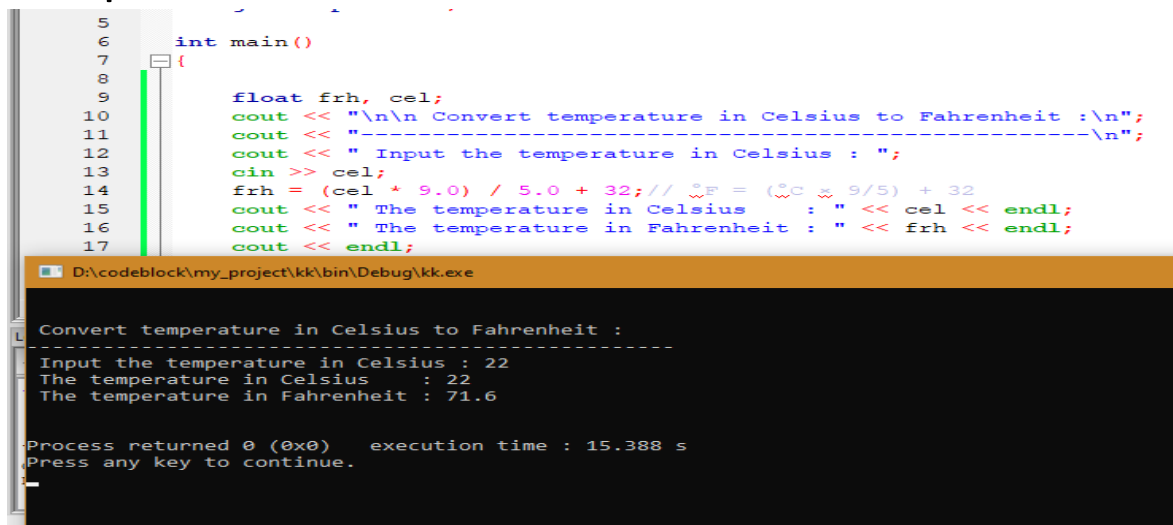
Input 1st number : 12
Input 2nd number : 20
After swapping the 1st number is : 20
After swapping the 2nd number is : 12

Process returned 0 (0x0) execution time : 15.453 s
Press any key to continue.

8- Write a program in C++ to convert temperature in Celsius to Fahrenheit?

```
5
6   int main()
7   {
8
9       float frh, cel;
10      cout << "\n\n Convert temperature in Celsius to Fahrenheit : \n";
11      cout << "-----\n";
12      cout << " Input the temperature in Celsius : ";
13      cin >> cel;
14      frh = (cel * 9.0) / 5.0 + 32; // °F = (°C * 9/5) + 32
15      cout << " The temperature in Celsius : " << cel << endl;
16      cout << " The temperature in Fahrenheit : " << frh << endl;
17      cout << endl;

```



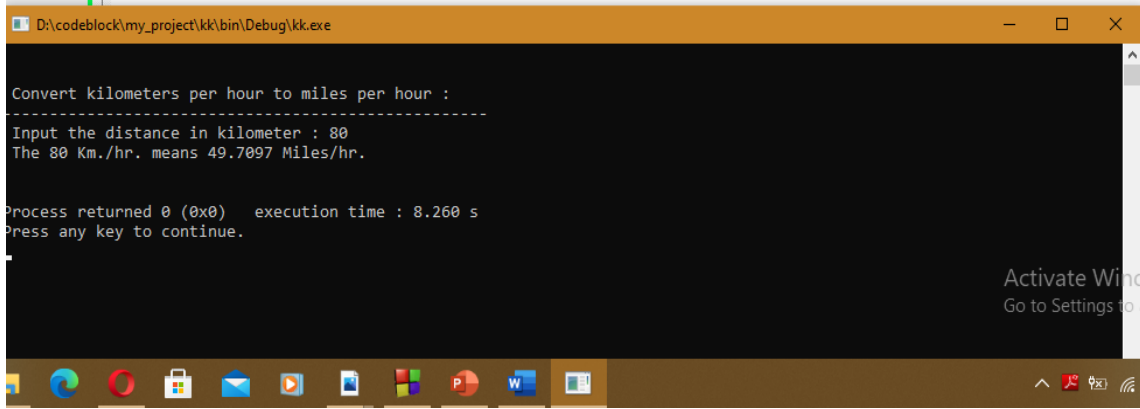
Convert temperature in Celsius to Fahrenheit :

Input the temperature in Celsius : 22
The temperature in Celsius : 22
The temperature in Fahrenheit : 71.6

Process returned 0 (0x0) execution time : 15.388 s
Press any key to continue.

9-Write a program in C++ that converts kilometers per hour to miles per hour.

```
1  #include <iostream>
2  #include <cmath>
3
4  using namespace std;
5
6  int main()
7  {
8      //
9      float kmph, mph;
10     cout << "\n\n Convert kilometers per hour to miles per hour :\n";
11     cout << "-----\n";
12     cout << " Input the distance in kilometer : ";
13     cin >> kmph;
14     mph = (kmph * 0.6213712);
15     cout << " The "<< kmph << " Km./hr. means "<< mph << " Miles/hr." << endl;
16     cout << endl;
```



D:\codeblock\my_project\kk\bin\Debug\kk.exe

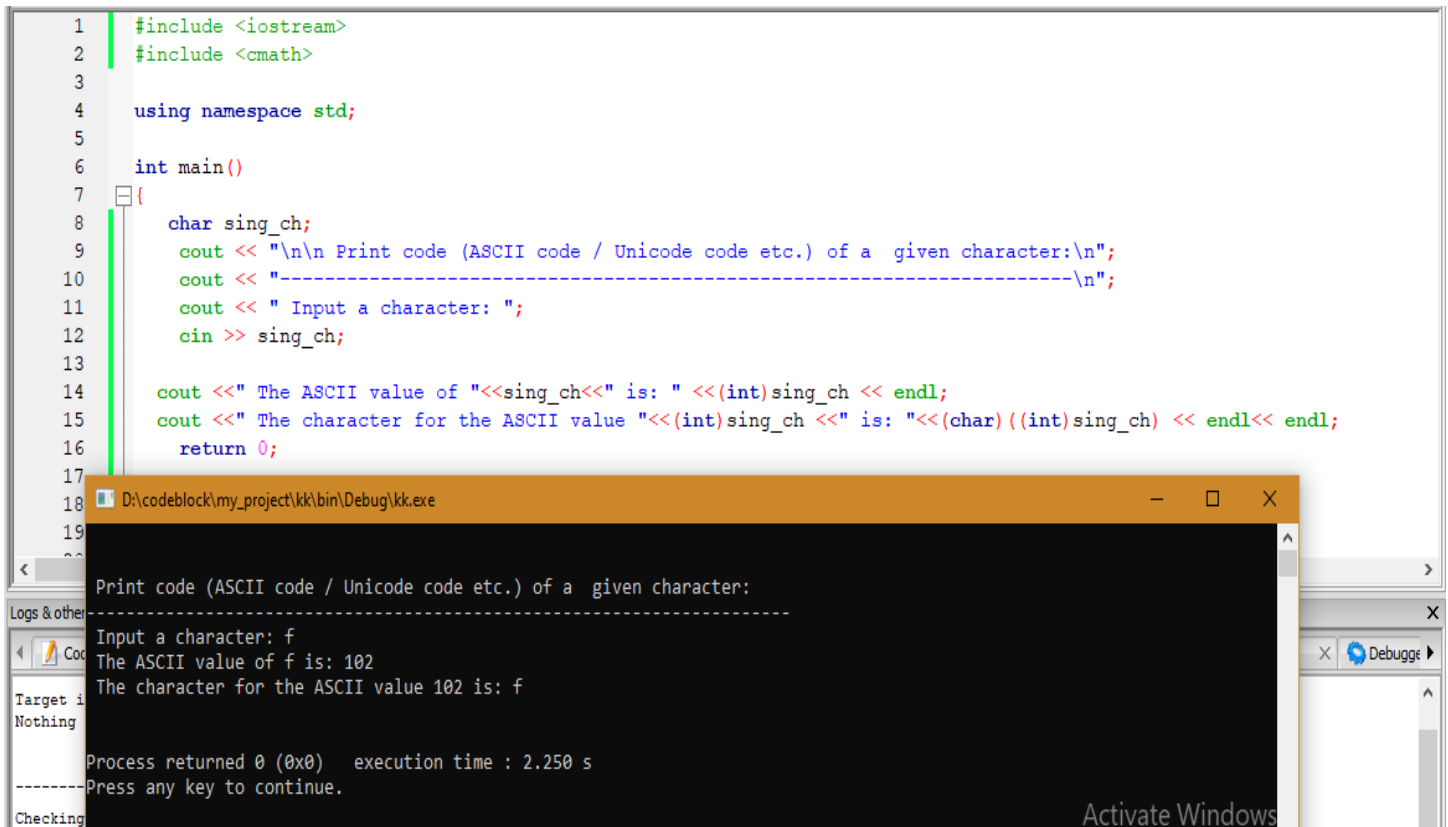
Convert kilometers per hour to miles per hour :

Input the distance in kilometer : 80
The 80 Km./hr. means 49.7097 Miles/hr.

Process returned 0 (0x0) execution time : 8.260 s
Press any key to continue.

Activate Windows
Go to Settings to activate Windows.

10-Write a program in C++ to print the code (ASCII code / Unicode code etc.) of a given character?



```
1  #include <iostream>
2  #include <cmath>
3
4  using namespace std;
5
6  int main()
7  {
8      char sing_ch;
9      cout << "\n\n Print code (ASCII code / Unicode code etc.) of a  given character:\n";
10     cout << "-----\n";
11     cout << " Input a character: ";
12     cin >> sing_ch;
13
14     cout << " The ASCII value of "<< sing_ch << " is: " << (int) sing_ch << endl;
15     cout << " The character for the ASCII value "<< (int) sing_ch << " is: "<< (char) ((int) sing_ch) << endl << endl;
16     return 0;
17 }
```

Output of the program:

```
Print code (ASCII code / Unicode code etc.) of a  given character:
-----
Input a character: f
The ASCII value of f is: 102
The character for the ASCII value 102 is: f

Process returned 0 (0x0)   execution time : 2.250 s
-----
Press any key to continue.
```

ASCII is the acronym for the American Standard Code for Information Interchange. It is a code for representing 128 English characters as numbers, with each letter assigned a number from 0 to 127. For example, the ASCII code for uppercase M is 77.

ASCII, abbreviation of American Standard Code For Information Interchange, a standard data-transmission code that is used by smaller and less-powerful computers to represent both textual data (letters, numbers, and punctuation marks) and noninput-device commands