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?

```cpp
#include <iostream>

using namespace std;

int main()
{

      int y=10,d=20;
      int c,v;
      cout<<"enter  the values  of c and  v?"<<endl;
      cin>>c>>v;
      float res=y-c*d+v;
      cout<<"the result is:  "<<res;

        return 0;
}
```

```
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

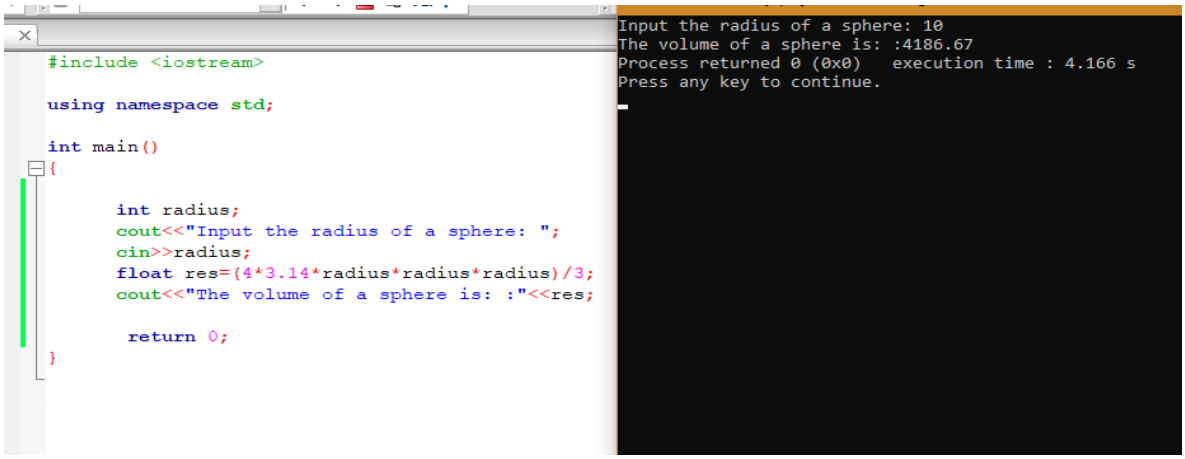
Volume=$side^3$

main.cpp

```cpp
#include <iostream>

using namespace std;

int main()
{

      int side;
      cout<<"Input the side of a cube: ";
      cin>>side;
      int res=side*side*side;
      cout<<"the volume of a cube is :"<<res;

        return 0;
}
```

```
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

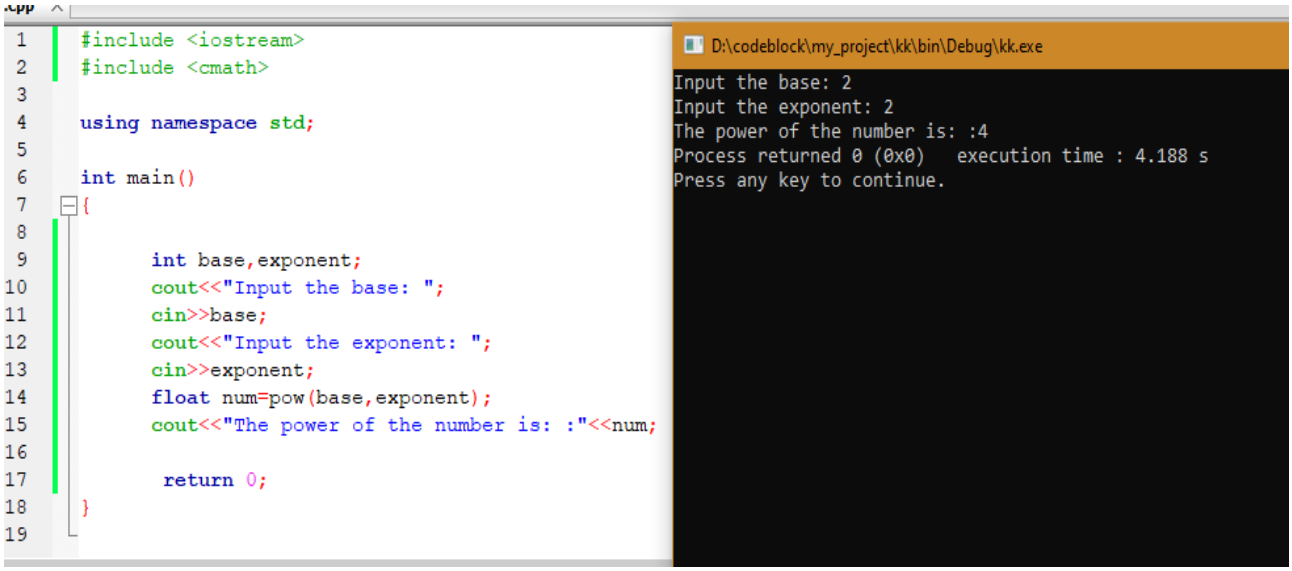


```cpp
#include <iostream>

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.



```cpp
#include <iostream>
#include <cmath>

using namespace std;

int main()
{

      int base,exponent;
      cout<<"Input the base: ";
      cin>>base;
      cout<<"Input the exponent: ";
      cin>>exponent;
      float num=pow(base,exponent);
      cout<<"The power of the number is: :"<<num;

       return 0;
}
```

```
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.

```cpp
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.

```cpp
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";
```

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

 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?

```
int main()
{
    cout << "\n\n Swap two numbers :\n";
    cout << "-----------------------\n";
    int num1, num2, temp;
    cout << " Input 1st number : ";
    cin >> num1 ;
    cout << " Input 2nd number : ";
    cin >> num2;
    temp=num2;
    num2=num1;
    num1=temp;
    cout << " After swapping the 1st number is : "<< num1 <<"\n" ;
    cout << " After swapping the 2nd number is : "<< num2 <<"\n\n" ;
```

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

 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.
```

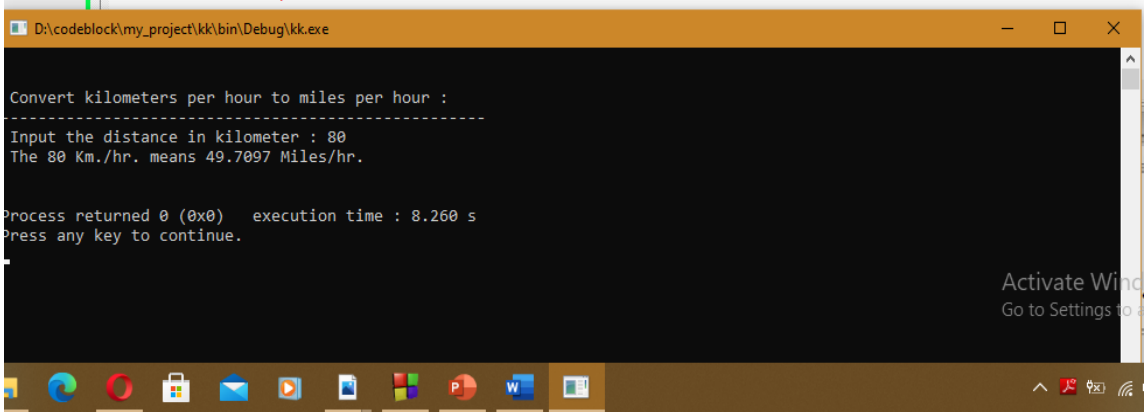
8- Write a program in C++ to convert temperature in Celsius to Fahrenheit?

```
int main()
{
    float frh, cel;
    cout << "\n\n Convert temperature in Celsius to Fahrenheit :\n";
    cout << "-------------------------------------------------\n";
    cout << " Input the temperature in Celsius : ";
    cin >> cel;
    frh = (cel * 9.0) / 5.0 + 32;// °F = (°C × 9/5) + 32
    cout << " The temperature in Celsius      : " << cel << endl;
    cout << " The temperature in Fahrenheit   : " << frh << endl;
    cout << endl;
```

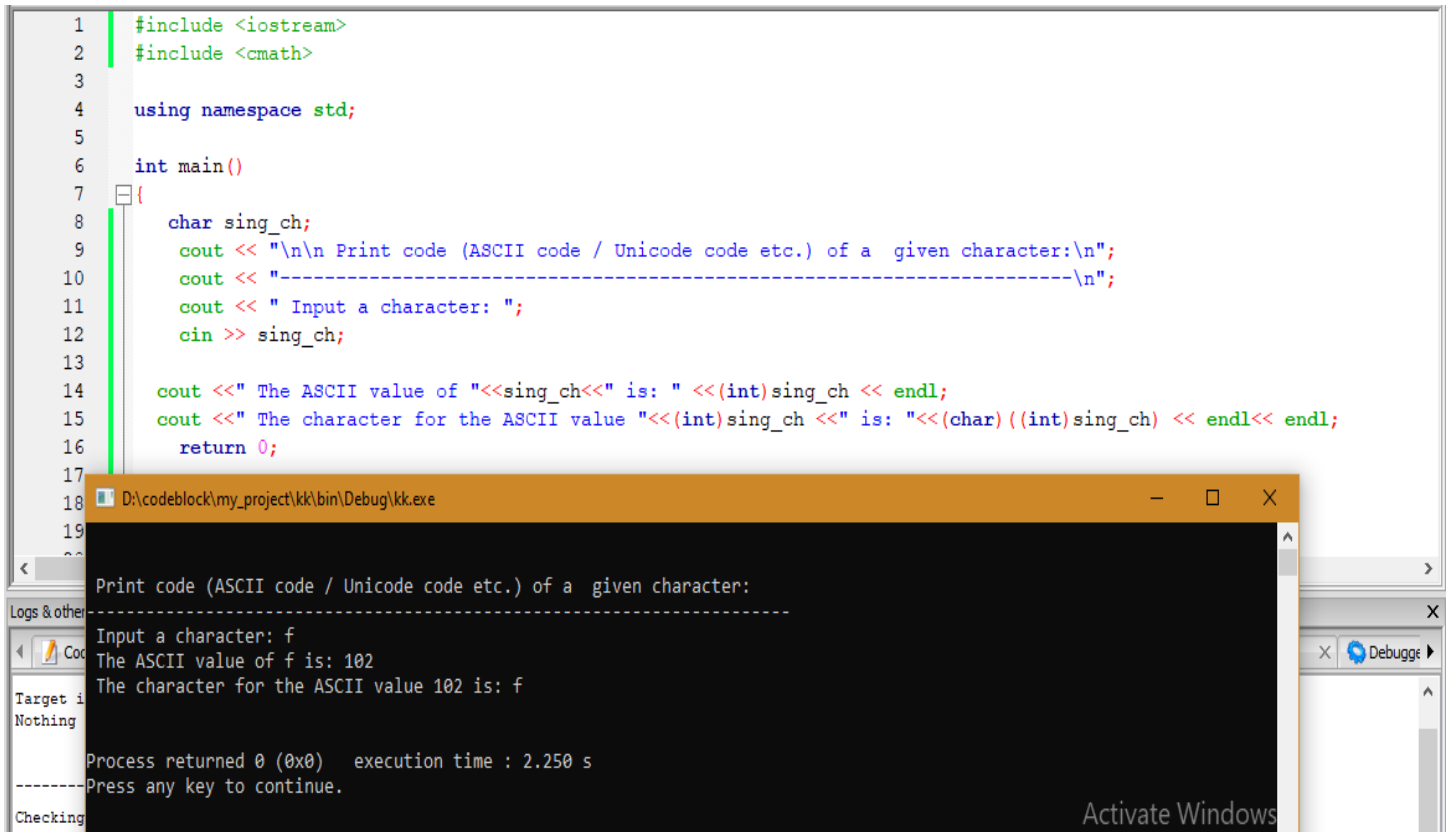
```
D:\codeblock\my_project\kk\bin\Debug\kk.exe

 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.

```cpp
#include <iostream>
#include <cmath>

using namespace std;

int main()
{
     //
    float kmph, miph;
    cout << "\n\n Convert kilometers per hour to miles per hour :\n";
    cout << "-------------------------------------------------\n";
    cout << " Input the distance in kilometer : ";
    cin >> kmph;
    miph = (kmph * 0.6213712);
    cout << " The "<< kmph <<" Km./hr. means "<< miph << " Miles/hr." << endl;
    cout << endl;
```



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



```cpp
#include <iostream>
#include <cmath>

using namespace std;

int main()
{
   char sing_ch;
    cout << "\n\n Print code (ASCII code / Unicode code etc.) of a  given character:\n";
    cout << "------------------------------------------------------------------------\n";
    cout << " Input a character: ";
    cin >> sing_ch;

  cout <<" The ASCII value of "<<sing_ch<<" is: " <<(int)sing_ch << endl;
  cout <<" The character for the ASCII value "<<(int)sing_ch <<" is: "<<(char)((int)sing_ch) << endl<< endl;
    return 0;
```

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

 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