```
in & oc Share
  main,cpp
                                                                                               Run
                                                                                                           Output
   1 #include <iostream>
                                                                                                          /tmp/o8zI33WJ31.o
   2 using namespace std;
                                                                                                          5 - 27 = 32
  4 - class Example {
  5
        int sum;
                                                                                                          === Code Execution Successful ===
  6
  7
         public:
           int a;
  8
            int b;
  9
  10
  11
         public:
  12
            void displaySum(int inputA, int inputB)
  13 -
             {
  14
                  a = inputA;
  15
                 b = inputB;
                 sum = a + b;
  17
                 cout << a << " + " << b << " = " << sum << endl;
  18
  19
            3
  20 };
  21
  22 int main ()
  23 - {
  24
         Example e1;
  25
  26
         e1.displaySum(5, 27);
  27
          return 0:
  28 }
                                                                               3℃ G α° Share
                                                                                                     Run
                                                                                                                Output
  main cop
  1 #include <iostream>
                                                                                                               /tmp/E6902amSsf.o
  2 using namespace std;
                                                                                                               Enter Data
                                                                                                               Student Name: Student 1
                                                                                                               Roll Number: 12
  4 + class Student {
       private:
          string name;
                                                                                                              Displaying Data
  6
       int rollNo;
                                                                                                               Student Name: Student 1
                                                                                                               Roll Number: 12
  8
  9
        public:
 10
          void acceptData()
  11+
                                                                                                               === Code Execution Successful ===
          -{
        cout << "Student Name: ";
 12
 13
               getline(cin, name);
               cout << "Roll Number: ";
 14
 15
              cin >> rollNo;
 16
        void displayData()
 18
 19 -
              cout << "Student Name: " << name << endl;
cout << "Roll Number: " << rollNo << endl;</pre>
 20
 21
 22
 23 };
 24
 25 int main()
 26 - {
 27
        Student s1;
 28
 29
        cout << "Enter Data" << endl;
       s1.acceptData();
 30
 31
       cout << "\nDisplaying Data" << endl;</pre>
 32
 33
        s1.displayData();
 34
 35
        return 0;
36 }
```

```
is de α Share
                                                                                              Run
  main.cpp
                                                                                                          Output
  1 #include <iostream>
                                                                                                       * /tmp/YaQaR6WISw.o
  2 using namespace std;
                                                                                                        Number: 5
                                                                                                        Square of 5 is 25
  3
  4 - class Number {
      private:
  5
  6
         int value;
                                                                                                        === Code Execution Successful ===
       public:
  8
 9 void setValue(int v)
10 {
       value = v;
 11
 12
        }
 13
 14:
        int getSquare()
      {
 15 •
 16
             return value * value;
 17
 18 };
 19
 20 int main()
 21 - {
 22
         Number num;
 23
        int x;
 24
 25
       cout << "Number: ";
 26
       cin >> x;
 27
 28
       num.setValue(x);
         cout << "Square of " << x << " is " << num.getSquare() << endl;</pre>
 29
 30
 31
         return 0;
 32 }
                                                                             2.c G ας Share Run
 main.cpp
                                                                                                             Output
  1 #include <iostream>
                                                                                                            /tmp/E6902amSsf.o
                                                                                                            Enter Data
  2 using namespace std;
                                                                                                           Student Name: Student 1
  4 + class Student {
                                                                                                            Roll Number; 12
      private:
  5
       string name;
int rollNo;
  6
                                                                                                            Displaying Data
                                                                                                            Student Name: Student 1
                                                                                                            Roll Number: 12
  8
      public:
  0
       void acceptData()
 10
 11+
                                                                                                            === Code Execution Successful ===
          cout << "Student Name: ";
getline(cin, name);</pre>
 12
 13
 14
              cout << "Roll Number: ";
               cin >> rollNo;
 15
 16
 17
           void displayData()
 18
 19 -
              cout << "Student Name: " << name << endl;
 20
              cout << "Roll Number: " << rollNo << endl;
 21
 22
 23 };
 25 int main()
 26 - {
        Student s1;
 27
 28
 29
      cout << "Enter Data" << endl;
 30
       s1.acceptData();
 31
       cout << "\nDisplaying Data" << endl;</pre>
 32
 33
      s1.displayData();
 34
 35
        return 0;
36 }
```

struct and class are mostly similar in functionality the main difference is that by default, when no access specifier is defined:

struct: Members and Methods are public class: Members and Methods are private

Both structs and classes can have
Data members (variables)
Member functions (methods)
Constructors and destructors
Inheritance
Polymorphism

```
Co G Hara Run
  main:opp
                                                                                                                                             Output
  1 #include <instrope
                                                                                                                                            /tmp/01DfQEhAsv_d
  2 using namespace std;
                                                                                                                                            Length: 12.5
                                                                                                                                            Breadth: 18.25
                                                                                                                                            Height: 26.2
      private:
                                                                                                                                            Arca: 228.125
          double length;
                                                                                                                                            Volume: 5976.88
           double breadth;
          double height;
                                                                                                                                            === Code Execution Successful ===
          void setDimensions(double \mathbf{1}_{\star} double \mathbf{b}_{\star} double \mathbf{h})
  111
        public:
  11
  13
               length = 1;
          breadth = b;
  14
              height = h;
  15
       double calculateArea()
{
    return length * breadth;
}
  18.
  19.
  21
  22
  23
           double calculateVolume()
               return length * breadth * height;
 26
27 );
  29 int main()
 30 + (
 31
  32
        double length, breadth, height;
  34
        cout << "Longth: ";
  35
        cin >> length;
        cout <= "Breadth! ";
  37
        cin >> breadth;
  38
        cout <= "Hoight: ";
        zin >> height;
  34
  40
        room.setDimensions(length, breadth, height);
  42
        cout <= "Arop: " <= room.calculateArea() <= endl;
cout <= "Volume: " <= room.calculateVolume() <= endl;</pre>
 43
 45
  46
        return 0;
42 5
                                                                                    Share
                                                                                                                   Run
                                                                                                                                 Output
   main.cpp
   1 #include <iostream>
                                                                                                                             * /tmp/JivoFEiYHw.o
   2 using namespace std;
                                                                                                                               The mean of 4 and 8 is 6
   4 - class Mean {
          private:
                                                                                                                               === Code Execution Successful ===
               double num1;
               double num2;
          public:
             void assign(double a, double b)
   10
   11-
               -{
                      num1 = a;
   12
   13
                      num2 = b;
   14
                 }
   15
                 void displayMean()
   16
   17 -
                 {
   18
                      double mean = (num1 + num2) / 2;
   19
                      cout << "The mean of " << num1 << " and " << num2 << " is " << mean << end1;
   20
  21 };
  23 int main()
   24 - {
   25
            Mean meanObj;
   26
   27
            meanObj.assign(4, 8);
   28
            meanObj.displayMean();
   29
   30
             return 0;
 31 }
```