

1. Write the c++ program for calculate the area of rectangle and volume of the rectangle. Create a class are and derive the volume and use the same member with same parameters for the above class?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class area
4 {
5     int l,b,area;
6 public:
7     void getdata()
8     {
9         cout<<"enter l & b= ";
10        cin>>l>>b;
11        area=l*b;
12        cout<<"area= "<<area;
13    }
14 };
15 class volume:public area
16 {
17     int l,b,h,volume;
18 public:
19     void getdata()
20     {
21         cout<<"enter l, b & h= ";
22         cin>>l>>b>>h;
23         volume=l*b*h;
24         cout<<"volume= "<<volume;
25     }
26 };
27 int main()
28 {
29     volume v;
30     v.getdata();

```

Output:

```

enter l,b & h= 2
3
4
volume= 24
enter l & b= 2
3
area= 6
.....
Process exited after 5.549 seconds with return value 0
Press any key to continue . . .

```

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\rectangle poly.exe
- Output Size: 2.98946762084961 MiB
- Compilation Time: 1.64s

```

2. Write the down the code for the following inheritance?

Bank-data member-get rate of interest. Bank as base class derives the icici bank, sbi bank, axis bank?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class bank
4 {
5     float p,t,r,s;
6     void getdata()
7     {
8         cout<<"enter principle: ";
9         cin>>p;
10        cout<<"enter rate: ";
11        cin>>r;
12        cout<<"enter time: ";
13        cin>>t;
14        cout<<"simple interest: ";
15        s=(p*r*t)/100;
16        cout<<s;
17    }
18 };
19
20 class sbi:public bank
21 {
22 public:
23     float p,t,r,s;
24     void getdata()
25     {
26         cout<<"enter principle: ";
27         cin>>p;
28         cout<<"enter rate: ";
29         cin>>r;
30         cout<<"enter time: ";

```

Output:

```

enter principle: 24500
enter rate: 2000
enter time: 3000
simple interest: 1.47e+09
enter principle: 2000
enter rate: 3
enter time: 4
simple interest of sbi: 240
enter principle: 24000
enter rate: 3
enter time: 2
simple interest of icici: 1440
enter principle: 9800
enter rate: 3
enter time: 2
simple interest of axis: 588
.....
Process exited after 20.79 seconds with return value 0
Press any key to continue . . .

```

Compilation results...

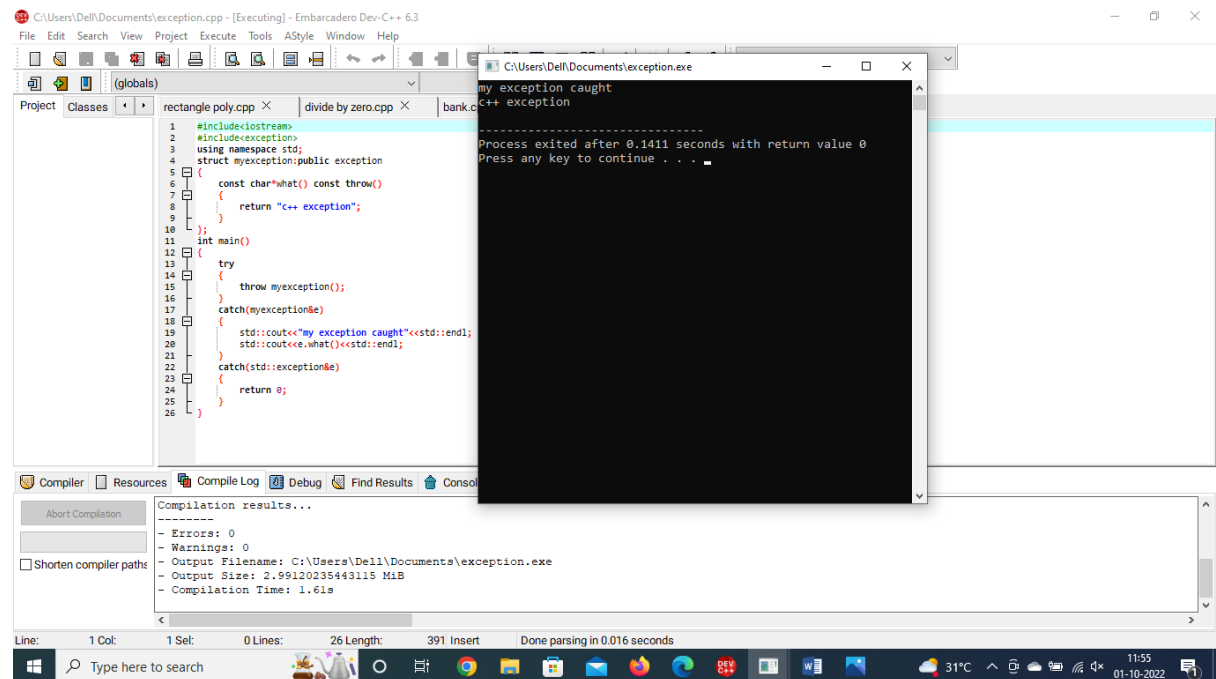
```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\bank.exe
- Output Size: 2.99037170410156 MiB
- Compilation Time: 1.63s

```

3. Write the c++ program for userdefined exception?

PROGRAM:



```
1 #include<iostream>
2 #include<exception>
3 using namespace std;
4 struct myException:public exception
5 {
6     const char*what() const throw()
7     {
8         return "C++ exception";
9     }
10 };
11 int main()
12 {
13     try
14     {
15         throw myException();
16     }
17     catch(myException&e)
18     {
19         std::cout<<"my exception caught"<<std::endl;
20         std::cout<<e.what()<<std::endl;
21     }
22     catch(std::exception&e)
23     {
24         return 0;
25     }
26 }
```

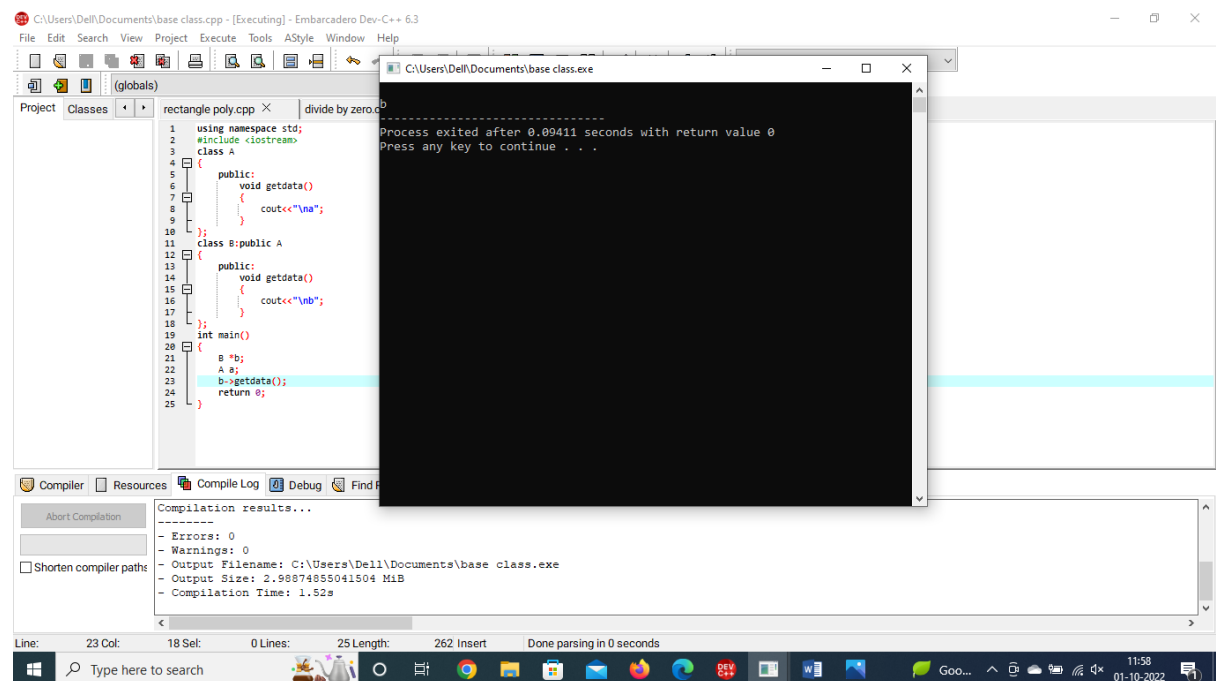
my exception caught
C++ exception

Process exited after 0.1411 seconds with return value 0
Press any key to continue . . .

Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\exception.exe
- Output Size: 2.99120235443115 MiB
- Compilation Time: 1.61s

4. Write the c++ program for base class with the virtual class?

PROGRAM:



```
1 using namespace std;
2 #include <iostream>
3 class A
4 {
5     public:
6     void getData()
7     {
8         cout<<"na";
9     }
10 };
11 class B:public A
12 {
13     public:
14     void getData()
15     {
16         cout<<"nb";
17     }
18 };
19 int main()
20 {
21     B *b;
22     A a;
23     b->getData();
24     return 0;
25 }
```

Process exited after 0.09411 seconds with return value 0
Press any key to continue . . .

Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\base class.exe
- Output Size: 2.98974855041504 MiB
- Compilation Time: 1.52s

5. Write a c++ program to print the divide by zero ?

PROGRAM:

The screenshot shows an IDE with the following components:

- Source File:** `divide by zero.cpp`

```
1 using namespace std;
2 #include <iostream>
3 double division(int a,int b)
4 {
5     if(b==0)
6     {
7         throw "divisor by zero";
8     }
9     return(a/b);
10 }
11
12 int main()
13 {
14     int x=50,y=0;
15     double z=0;
16     try
17     {
18         z=division(x,y);
19         cout<<z<<endl;
20     }
21     catch(const char*msg)
22     {
23         cout<<"msg"<<endl;
24     }
25     return 0;
```
- Compiler Output:**

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\divide by zero.exe
- Output Size: 3.0110330581665 MiB
- Compilation Time: 1.97s
```
- Execution Window:** Shows the program's output and status.

```
msg
-----
Process exited after 0.8872 seconds with return value 0
Press any key to continue . . .
```