

Swaminathan Navinashok

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1. Write a C++ program to overload the addition, subtraction, multiplication, division and modulo operations for two complex numbers.

“main.cpp”

```
#include<iostream>
#include "compnum.h"
using namespace std;

int main()
{
    int ch;

    compnum x,y,z;

    do
    {
        cout<<"\n\n \n\n  complex number arithmetic: \n 1.add";
        cout<<" \n 2.subtract \n 3.multiply \n 4.divide \n enter 0 to exit\n\n  ";
        cin>>ch;
        switch(ch)
        {
```

case 1 :

```
cout<<"\n\n enter first complex number \n\n ";
x.put();

cout<<"\n\n enter second complex number \n\n ";
y.put();
```

```
z=x+y;
cout<<"\n\n \t result : ";z.get();
break;
```

case 2 :

```
cout<<"\n\n enter the first complex number\n\n ";
x.put();
```

```
cout<<"\n\n enter second complex number\n\n ";
y.put();
```

```
z=x-y;
cout<<"\n\n \t result : ";z.get();
break;
```

case 3 :

```
cout<<"\n\n enter first complex number \n\n ";
x.put();
```

```
cout<<"\n\n enter second complex number \n\n ";
y.put();
```

```
z=x*y;
cout<<"\n\n \t result : ";z.get();
break;
```

case 4 :

```

cout<<"\n\n enter first complex number \n\n ";
x.put();

cout<<"\n\n enter second complex number \n\n ";
y.put();

z=x/y;
cout<<"\n\n \t result : ";z.get();
break;

case 0: cout<<"\n exiting \n";break;

default : cout<<"\n invalid input \n" ;break;
}

}while(ch!=0);

return 0;
}

```

“comnum.h”

```

#ifndef COMNUM_H
#define COMNUM_H

```

```
class comnum
```

```
{
```

```
int real,imaginary;
```

```
public :
```

```
void put();
```

```
void get();
```

```
compnum operator+(compnum);

compnum operator-(compnum);

compnum operator*(compnum);

compnum operator/(compnum);

};

#endif
```

“compnum.cpp”

```
#include "compnum.h"

#include<iostream>

using namespace std;

void compnum::put()
{
    cout<<"\n real part : ";
    cin>>real;
    cout<<"\n imaginary part : ";
    cin>>imaginary;
}

void compnum::get()
```

```
cout<<real<<" + "<<imaginary<<" i\n";
}
```

```
compnum compnum::operator+(compnum y)
{
    compnum temp;
    temp.real=real+y.real;
    temp.imaginary=imaginary+y.imaginary;
    return temp;
}
```

```
compnum compnum::operator-(compnum y)
{
    compnum temp;
    temp.real=real-y.real;
    temp.imaginary=imaginary-y.imaginary;
    return temp;
}
```

```
compnum compnum::operator*(compnum y)
{
    compnum temp;
    temp.real=(real*y.real)-(imaginary*y.imaginary);
    temp.imaginary=(real*y.imaginary)+(imaginary*y.real);
    return temp;
}
```

```
compnum compnum::operator/(compnum y)
{
    compnum temp;
    temp.real=((real*y.real)+(imaginary*y.imaginary))/((y.real*y.real)+(y.imaginary*y.imaginary));
    temp.imaginary=((imaginary*y.real)-(real*y.imaginary))/((y.real*y.real)+(y.imaginary*y.imaginary));
    return temp;
}
```

Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp compnum.h compnum.cpp

(globals)

16 cin>>ch;

17 switch(ch)

18 {

19 case 1 :

20 cout<<"\n\n enter first complex number \n\n ";

21 x.put();

22

23 cout<<"\n\n enter second complex number \n\n ";

24 y.put();

25

26 z=x+y;

27 cout<<"\n\n \t result : ";z.get();

28 break;

29 case 2 :

30 cout<<"\n\n enter the first complex number\n\n ";

31 x.put();

32

33 cout<<"\n\n enter second complex number\n\n ";

34 y.put();

35

36 z=x-y;

37 cout<<"\n\n \t result : ";z.get();

38 break;

39 case 3 :

40 cout<<"\n\n enter first complex number \n\n ";

41 x.put();

42

43 cout<<"\n\n enter second complex number \n\n ";

44 y.put();

Compiler Resources Compile Log Debug Find Results

Line: 14 Col: 10 Sel: 0 Lines: 65 Length: 1530 Insert Done parsing in 0.016 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The title bar reads "Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains various icons for file operations like Open, Save, and Build. The status bar at the bottom shows "Line: 14 Col: 10 Sel: 0 Lines: 65 Length: 1530 Insert Done parsing in 0.016 seconds". The main window displays a C++ code editor with the following code:

```
cin>>ch;
switch(ch)
{
    case 1 :
        cout<<"\n\n enter first complex number \n\n ";
        x.put();

        cout<<"\n\n enter second complex number \n\n ";
        y.put();

        z=x+y;
        cout<<"\n\n \t result : ";z.get();
        break;

    case 2 :
        cout<<"\n\n enter the first complex number\n\n ";
        x.put();

        cout<<"\n\n enter second complex number\n\n ";
        y.put();

        z=x-y;
        cout<<"\n\n \t result : ";z.get();
        break;

    case 3 :
        cout<<"\n\n enter first complex number \n\n ";
        x.put();

        cout<<"\n\n enter second complex number \n\n ";
        y.put();
}
```

Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

(globals)

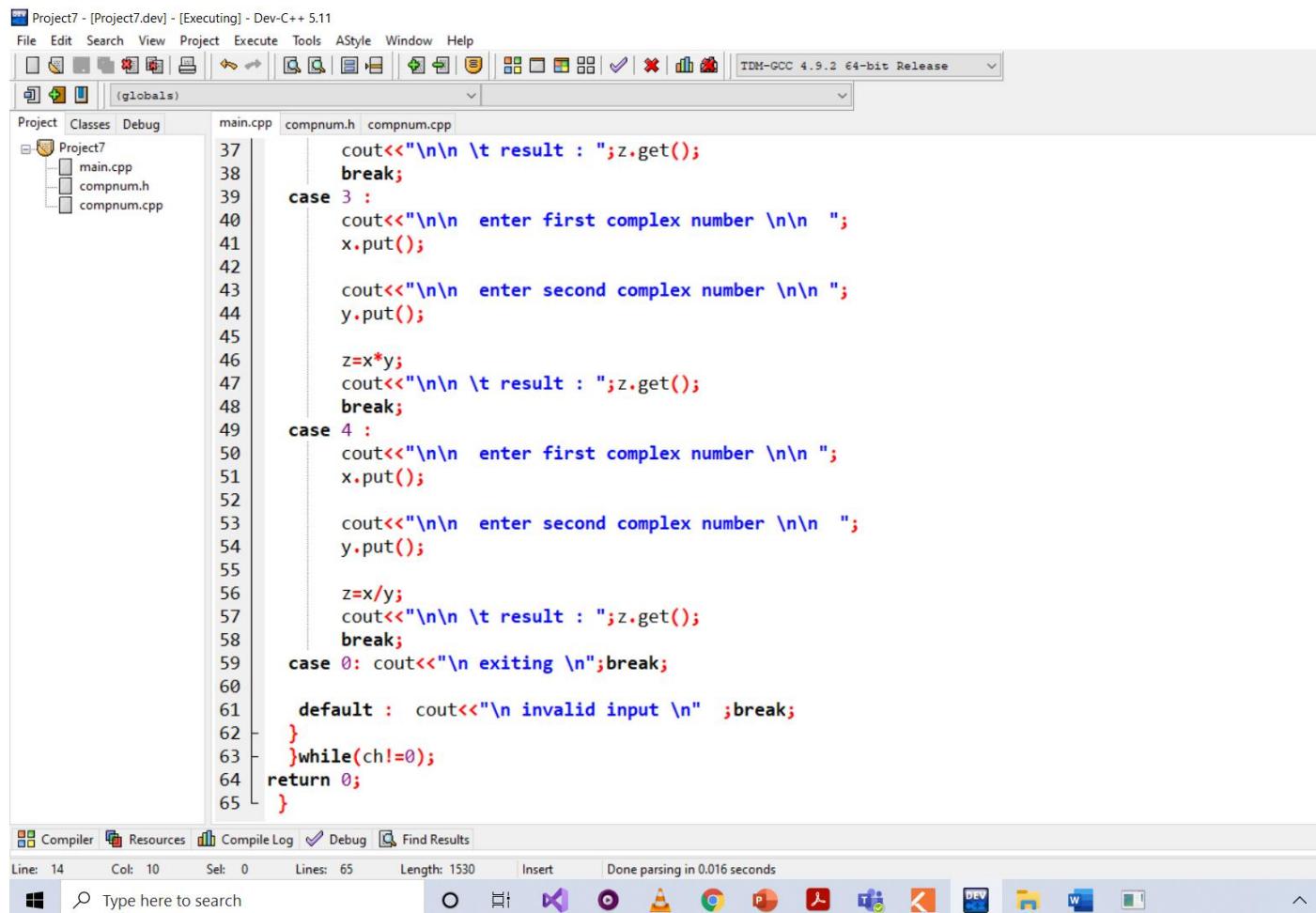
main.cpp compnum.h compnum.cpp

```
37     cout<<"\n\n \t result : ";z.get();
38     break;
39 case 3 :
40     cout<<"\n\n enter first complex number \n\n ";
41     x.put();
42
43     cout<<"\n\n enter second complex number \n\n ";
44     y.put();
45
46     z=x*y;
47     cout<<"\n\n \t result : ";z.get();
48     break;
49 case 4 :
50     cout<<"\n\n enter first complex number \n\n ";
51     x.put();
52
53     cout<<"\n\n enter second complex number \n\n ";
54     y.put();
55
56     z=x/y;
57     cout<<"\n\n \t result : ";z.get();
58     break;
59 case 0: cout<<"\n exiting \n";break;
60
61 default : cout<<"\n invalid input \n" ;break;
62 }
63 }while(ch!=0);
64 return 0;
}
```

Compiler Resources Compile Log Debug Find Results

Line: 14 Col: 10 Sel: 0 Lines: 65 Length: 1530 Insert Done parsing in 0.016 seconds

Type here to search



Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp compnum.h compnum.cpp

Project7

- main.cpp
- compnum.h
- compnum.cpp

```
1 #ifndef COMPNUM_H
2 #define COMPNUM_H
3
4
5 class compnum
6 {
7     int real,imaginary;
8     public :
9
10    void put();
11
12    void get();
13
14    compnum operator+(compnum);
15
16    compnum operator-(compnum);
17
18    compnum operator*(compnum);
19
20    compnum operator/(compnum);
21
22 };
23
24 #endif
```

Compiler Resources Compile Log Debug Find Results

Line: 12 Col: 15 Sel: 0 Lines: 24 Length: 320 Insert Done parsing in 0.016 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The title bar reads "Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar at the top has various icons for file operations like Open, Save, Print, and Build. The status bar at the bottom shows "Line: 12 Col: 15 Sel: 0 Lines: 24 Length: 320 Insert Done parsing in 0.016 seconds". The main workspace displays a C++ code editor with syntax highlighting for keywords and operators. The code defines a class named "compnum" with methods for addition, subtraction, multiplication, division, and output. The code editor has tabs for "main.cpp", "compnum.h", and "compnum.cpp". The project tree on the left shows files "main.cpp", "compnum.h", and "compnum.cpp" under the "Project7" folder. The bottom navigation bar includes links for Compiler, Resources, Compile Log, Debug, and Find Results. A search bar is present at the bottom left. The bottom right features a row of small icons for various tools and applications.

The screenshot shows the Dev-C++ IDE interface. The title bar reads "Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Build, and Run. The project tree on the left shows a single project named "Project7" containing files main.cpp, compnum.h, and compnum.cpp. The main editor window displays the following C++ code:

```
1 #include "compnum.h"
2 #include<iostream>
3 using namespace std;
4
5 void compnum::put()
6 {
7     cout<<"\n real part : ";
8     cin>>real;
9     cout<<"\n imaginary part : ";
10    cin>>imaginary;
11 }
12
13
14 void compnum::get()
15 {
16     cout<<real<<" + "<<imaginary<<" i\n";
17 }
18
19
20 compnum compnum::operator+(compnum y)
21 {
22     compnum temp;
23     temp.real=real+y.real;
24     temp.imaginary=imaginary+y.imaginary;
25     return temp;
26 }
27
28
29 compnum compnum::operator-(compnum y)
```

The status bar at the bottom shows "Line: 3 Col: 22 Sel: 0 Lines: 54 Length: 1171 Insert Done parsing in 0.016 seconds". Below the status bar is a search bar with placeholder text "Type here to search".

Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp compnum.h compnum.cpp

Project7

main.cpp compnum.h compnum.cpp

```
26 L }
27
28
29     compnum compnum::operator-(compnum y)
30 {
31     compnum temp;
32     temp.real=real-y.real;
33     temp.imaginary=imaginary-y.imaginary;
34     return temp;
35 }
36
37
38     compnum compnum::operator*(compnum y)
39 {
40     compnum temp;
41     temp.real=(real*y.real)-(imaginary*y.imaginary);
42     temp.imaginary=(real*y.imaginary)+(imaginary*y.real);
43     return temp;
44 }
45
46
47     compnum compnum::operator/(compnum y)
48 {
49     compnum temp;
50     temp.real=((real*y.real)+(imaginary*y.imaginary))/((y.real*y.real)+(y.imaginary*y.imaginary));
51     temp.imaginary=((imaginary*y.real)-(real*y.imaginary))/((y.real*y.real)+(y.imaginary*y.imaginary));
52     return temp;
53 }
54 }
```

Compiler Resources Compile Log Debug Find Results

Line: 3 Col: 22 Sel: 0 Lines: 54 Length: 1171 Insert Done parsing in 0.016 seconds

Type here to search

Project7 - [Project7.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp compnum.h compnum.cpp

```
1 #include<iostream>
2 #include "compnum.h"
3 using namespace std;
4
5
6 int main()
7 {
8     int ch;
9
10    compnum x,y,z;
11    do
12    {
13        cout<<"\n\n \n\n      complex number arithmetic: \n 1.add";
14        cout<<"\n 2.subtract \n 3.multiply \n 4.divide \n enter 0 to exit\n\n   ";
15
16        cin>>ch;
17        switch(ch)
18        {
19            case 1 :
20                cout<<"\n\n   enter first complex number \n\n ";
21                x.put();
22        }
    }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\ql\Project7.exe
- Output Size: 1.85494804382324 MiB
- Compilation Time: 1.94s

Line: 14 Col: 10 Sel: 0 Lines: 65 Length: 1530 Insert Done parsing in 0.016 seconds

Type here to search

E:\DEVcpp files\24-march\q1\Project7.exe

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

1

enter first complex number

real part : 4

imaginary part : 5

enter second complex number

real part : 6

imaginary part : 7

result : 10 + 12 i

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

2

enter the first complex number

real part : 3



Type here to search



E:\DEVcpp files\24-march\q1\Project7.exe

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

2

enter the first complex number

real part : 3

imaginary part : 6

enter second complex number

real part : 2

imaginary part : 4

result : 1 + 2 i

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

3

enter first complex number

real part : 1

imaginary part : 2



Type here to search



E:\DEVcpp files\24-march\q1\Project7.exe

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

3

enter first complex number

real part : 1

imaginary part : 2

enter second complex number

real part : 3

imaginary part : 4

result : -5 + 10 i

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit
```

4

enter first complex number

real part : 6

imaginary part : 8



Type here to search



E:\DEVcpp files\24-march\q1\Project7.exe

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit  
4
```

```
enter first complex number
```

```
real part : 6
```

```
imaginary part : 8
```

```
enter second complex number
```

```
real part : 3
```

```
imaginary part : 4
```

```
result : 2 + 0 i
```

```
complex number arithmetic:  
1.add  
2.subtract  
3.multiply  
4.divide  
enter 0 to exit  
4
```

```
enter first complex number
```

```
real part : 5
```

```
imaginary part : 6
```



Type here to search



```
E:\DEVcpp files\24-march\q1\Project7.exe
3.multiply
4.divide
enter 0 to exit

4

enter first complex number

real part : 5
imaginary part : 6

enter second complex number

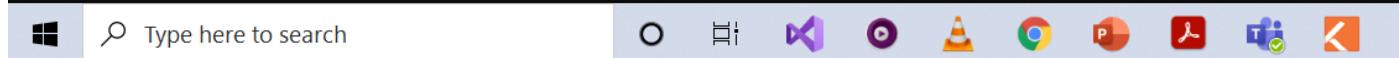
real part : 3
imaginary part : 5

result : 1 + 0 i

complex number arithmetic:
1.add
2.subtract
3.multiply
4.divide
enter 0 to exit

0

exiting
```



2. Write a C++ program to create a class for fraction using numerator and denominator as its data members. Overload suitable operators to add and subtract two fractions with same denominators and different denominators.

“main.cpp”

```

#include <iostream>
using namespace std;
#include "fract.h"

int main(){
    int n=0,n2=0,d=1,d2=1,c=0;fract f,a,b;

    do{

        cout<<"\n\n\n choose operation : \n\n 1) add fractions \n\n 2) subtract fractions \n\n 0 to exit
\n\n ";cin>>c;

        if(c==1 || c==2)

        {

            cout<<"\n\n\n for first fraction :";

            cout<<"\n\n enter numerator : ";cin>>n;

            cout<<"\n enter denominator : ";cin>>d;

            a.put(n,d);

            cout<<"\n\n\n for second fraction :";

            cout<<"\n\n enter numerator : ";cin>>n2;

            cout<<"\n enter denominator : ";cin>>d2;

            b.put(n2,d2);

        }

        switch(c)

        {

            case 0: cout<<"\n\n exiting \n\n";break;

            case 1: f=a+b;cout<<"\n\n  result is : ";f.get();break;

            case 2: f=a-b;cout<<"\n\n  result is : ";f.get();break;

            default: cout<<"\n\n invalid choice \n\n";break;

        }

    }

}

```

```
}while(c!=0);
```

```
return 0;
```

```
}
```

“fract.h”

```
#ifndef FRACT_H
```

```
#define FRACT_H
```

```
class fract
```

```
{
```

```
    int num;
```

```
    int dem;
```

```
public:
```

```
    fract();
```

```
    void reduce();
```

```
    fract(int n,int d);
```

```
    void put(int n,int d);
```

```
    fract operator+(fract x);
```

```
    fract operator-(fract x);
```

```
    fract& operator=(fract x);
```

```
    void get();
```

```
};
```

```
#endif
```

“fract.cpp”

```
#include "fract.h"  
#include <iostream>  
#include <algorithm>// to find gcd of numerator,denominator  
using namespace std;
```

```
fract::fract()
```

```
{  
    num=0;  
    dem=0;  
}
```

```
void fract::reduce()// to cut off common factors between n and d
```

```
{  
    int x= __gcd(num,dem);//defined in <algorithm>  
    num=num/x;  
    dem=dem/x;  
}
```

```
fract::fract(int n,int d)
```

```
{
```

```
    num=n;
```

```
    dem=d;
```

```
}
```

```
void fract::put(int n,int d)
```

```
{
```

```
    num=n;
```

```
    dem=d;
```

```
}
```

```
fract fract::operator+(fract x)
```

```
{
```

```
    fract res;
```

```
    res.num=(num*x.dem)+(dem*x.num);
```

```
    res.dem=dem*x.dem;
```

```
    res.reduce();
```

```
    return(res);
```

```
}
```

```
fract fract::operator-(fract x)
```

```
{
```

```
    fract res;
```

```
    res.num=(num*x.dem)-(dem*x.num);
```

```
    res.dem=dem*x.dem;
```

```
    res.reduce();
    return(res);
}
```

```
fract& fract::operator=(fract x)
{
    num=x.num;
    dem=x.dem;
    return *(this);
}
```

```
void fract::get()
{
    cout<<num<<" / "<<dem<<endl;
}
```

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

Project8

- main.cpp
- fract.h
- fract.cpp

```
1 #include <iostream>
2 using namespace std;
3 #include "fract.h"
4
5 int main(){
6     int n=0,n2=0,d=1,d2=1,c=0;fract f,a,b;
7     do{
8
9         cout<<" \n\n\n choose operation : \n\n 1) add fractions \n\n 2) subtract fractions \n\n 0 to exit "
10        if(c==1 || c==2)
11    {
12
13        cout<<"\n\n\n for first fraction :";
14        cout<<" \n\n enter numerator :  ";cin>>n;
15        cout<<" \n enter denominator :  ";cin>>d;
16        a.put(n,d);
17        cout<<"\n\n\n for second fraction :";
18        cout<<" \n\n enter numerator :  ";cin>>n2;
19        cout<<" \n enter denominator :  ";cin>>d2;
20        b.put(n2,d2);
21    }
22 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

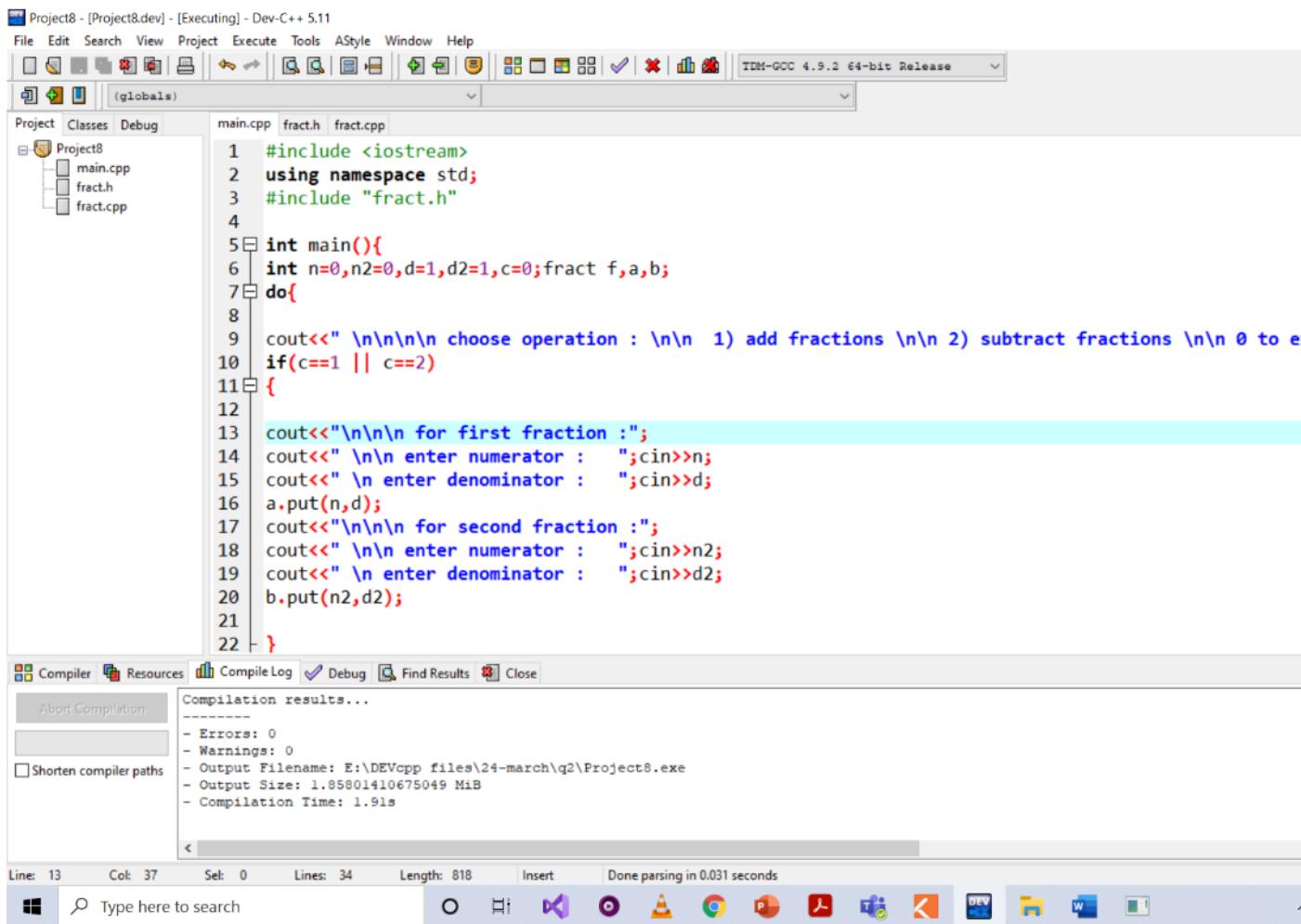
Shorten compiler paths

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.85801410675049 MiB
- Compilation Time: 1.91s

Line: 13 Col: 37 Sel: 0 Lines: 34 Length: 818 Insert Done parsing in 0.031 seconds

Type here to search



Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

(globals)

main.cpp fract.h fract.cpp

```
14 cout<<"\n\n enter numerator : " ; cin>>n;
15 cout<<"\n enter denominator : " ; cin>>d;
16 a.put(n,d);
17 cout<<"\n\n for second fraction :";
18 cout<<"\n\n enter numerator : " ; cin>>n2;
19 cout<<"\n enter denominator : " ; cin>>d2;
20 b.put(n2,d2);
21 }
22 }

24 switch(c)
25 {
26     case 0: cout<<"\n\n exiting \n\n";break;
27     case 1: f=a+b;cout<<"\n\n    result is : " ; f.get();break;
28     case 2: f=a-b;cout<<"\n\n    result is : " ; f.get();break;
29     default: cout<<"\n\n invalid choice \n\n";break;
30 }
31
32 }while(c!=0);
33
34 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.85801410675049 MiB
- Compilation Time: 1.91s
```

Line: 13 Col: 37 Sel: 0 Lines: 34 Length: 818 Insert Done parsing in 0.031 seconds

Type here to search

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp fract.h fract.cpp

Project8

- main.cpp
- fract.h
- fract.cpp

```
1 #ifndef FRACT_H
2 #define FRACT_H
3
4 class fract
5 {
6     int num;
7     int dem;
8
9 public:
10
11     fract();
12     |
13     void reduce();
14
15     fract(int n,int d);
16
17     void put(int n,int d);
18
19     fract operator+(fract x);
20
21     fract operator-(fract x);
22 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.65801410675049 MiB
- Compilation Time: 1.91s
```

Line: 12 Col: 5 Sel: 0 Lines: 32 Length: 311 Insert Done parsing in 0.031 seconds

Type here to search

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp fract.h fract.cpp

Project8

- main.cpp
- fract.h
- fract.cpp

```
12 | void reduce();  
13 |  
14 | fract(int n,int d);  
15 |  
16 | void put(int n,int d);  
17 |  
18 | fract operator+(fract x);  
19 |  
20 | fract operator-(fract x);  
21 |  
22 | fract& operator=(fract x);  
23 |  
24 | void get();  
25 |  
26 |  
27 |  
28 |  
29 |};  
30 |  
31 |#endif
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

Compilation results...

```
- Errors: 0  
- Warnings: 0  
- Output Filename: E:\DEVcpp_files\24-march\q2\Project8.exe  
- Output Size: 1.85801410675049 MiB  
- Compilation Time: 1.91s
```

Line: 12 Col: 5 Sek: 0 Lines: 32 Length: 311 Insert Done parsing in 0.031 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The top menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The title bar indicates the project is "Project8" and is currently executing. The toolbar contains various icons for file operations like Open, Save, Print, and Build. The status bar at the bottom shows the current line (12), column (5), and total lines (32). The bottom right corner features a taskbar with icons for various applications.

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp fract.h fract.cpp

Project8

- main.cpp
- fract.h
- fract.cpp

```
1 #include "fract.h"
2 #include <iostream>
3 #include <algorithm> // to find gcd of numerator,denominator
4 using namespace std;
5
6 fract::fract()
7 {
8     num=0;
9     dem=0;
10 }
11
12
13 void fract::reduce() // to cut off common factors between n and d
14 {
15     int x= __gcd(num,dem); //defined in <algorithm>
16     num=num/x;
17     dem=dem/x;
18 }
19
20
21 fract::fract(int n,int d)
22 {
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.95801410675049 MiB
- Compilation Time: 1.91s
```

Line: 17 Col: 24 Sel: 0 Lines: 67 Length: 915 Insert Done parsing in 0.031 seconds

Type here to search

A screenshot of the Dev-C++ IDE interface. The main window shows a code editor with C++ code for a fraction class. The code includes header inclusion, namespaces, constructor definitions, and a reduce method that uses the __gcd function from the algorithm header. Below the code editor is a 'Compile Log' tab showing successful compilation with zero errors and warnings. The taskbar at the bottom displays various application icons.

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools Astyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp fract.h fract.cpp

Project8

- main.cpp
- fract.h
- fract.cpp

```
20
21     fract::fract(int n,int d)
22 {
23     num=n;
24     dem=d;
25 }
26
27     void fract::put(int n,int d)
28 {
29     num=n;
30     dem=d;
31 }
32
33
34
35
36     fract fract::operator+(fract x)
37 {
38     fract res;
39     res.num=(num*x.dem)+(dem*x.num);
40     res.dem=dem*x.dem;
41     res.reduce();
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

Abort Compilation

Shorten compiler paths

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp\files\24-march\q2\Project8.exe
- Output Size: 1.85801410675049 MiB
- Compilation Time: 1.91s

Line: 17 Col: 24 Sel: 0 Lines: 67 Length: 915 Insert Done parsing in 0.031 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The top menu bar includes File, Edit, Search, View, Project, Execute, Tools, Astyle, Window, and Help. The title bar indicates "Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11". The toolbar contains various icons for file operations like Open, Save, and Build. The status bar at the bottom shows "Line: 17 Col: 24 Sel: 0 Lines: 67 Length: 915 Insert Done parsing in 0.031 seconds". The main window has tabs for Project, Classes, Debug, main.cpp, fract.h, and fract.cpp. The fract.cpp tab is active, displaying C++ code for a fract class. The code includes constructors, a put method, and an operator+ method that performs addition and reduces the result. Below the code editor is a "Compiler" tab with a "Compile Log" sub-tab. The log window displays the compilation results, showing 0 errors and 0 warnings, and provides details about the output file (E:\DEVcpp\files\24-march\q2\Project8.exe), output size (1.85801410675049 MiB), and compilation time (1.91s). The bottom of the screen features a taskbar with icons for various applications.

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp fract.h fract.cpp

Project8

- main.cpp
- fract.h
- fract.cpp

```
35
36     fract fract::operator+(fract x)
37 {
38     fract res;
39     res.num=(num*x.dem)+(dem*x.num);
40     res.dem=dem*x.dem;
41     res.reduce();
42     return(res);
43 }
44
45
46     fract fract::operator-(fract x)
47 {
48     fract res;
49     res.num=(num*x.dem)-(dem*x.num);
50     res.dem=dem*x.dem;
51     res.reduce();
52     return(res);
53 }
54
55     fract& fract::operator=(fract x)
56 {
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

Compilation results...

```
-----
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.85801410675049 MiB
- Compilation Time: 1.91s
```

Line: 17 Col: 24 Sel: 0 Lines: 67 Length: 915 Insert Done parsing in 0.031 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The top menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. A toolbar with various icons is located above the menu. The title bar indicates the project is "Project8" and is executing under "Dev-C++ 5.11". The status bar at the bottom shows the current line (17), column (24), selection (0), total lines (67), length (915), and the message "Done parsing in 0.031 seconds". The main window contains a code editor with three tabs: main.cpp, fract.h, and fract.cpp. The fract.cpp tab is active, displaying C++ code for fract class operators. Below the code editor is a toolbar with icons for Compiler, Resources, Compile Log, Debug, Find Results, and Close. The "Compile Log" tab is selected, showing compilation results with 0 errors and 0 warnings, outputting to E:\DEVcpp files\24-march\q2\Project8.exe, with a size of 1.85801410675049 MiB and a compilation time of 1.91s. To the left of the code editor is a project tree showing "Project8" with files main.cpp, fract.h, and fract.cpp. The bottom of the screen features a Windows taskbar with various pinned icons.

Project8 - [Project8.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp fract.h fract.cpp

```
45
46     fract fract::operator-(fract x)
47 {
48     fract res;
49     res.num=(num*x.dem)-(dem*x.num);
50     res.dem=den*x.dem;
51     res.reduce();
52     return(res);
53 }
54
55     fract& fract::operator=(fract x)
56 {
57     num=x.num;
58     den=x.den;
59     return *(this);
60 }
61
62     void fract::get()
63 {
64     cout<<num<<" / "<<den<<endl;
65 }
66 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q2\Project8.exe
- Output Size: 1.85801410675049 MiB
- Compilation Time: 1.91s

Line: 65 Col: 31 Sel: 0 Lines: 67 Length: 915 Insert Done parsing in 0.031 seconds

Type here to search

E:\DEVcpp files\24-march\q2\Project8.exe

```
choose operation :
```

- 1) add fractions
- 2) subtract fractions

```
0 to exit
```

```
1
```

```
for first fraction :
```

```
enter numerator : 5
```

```
enter denominator : 6
```

```
for second fraction :
```

```
enter numerator : 9
```

```
enter denominator : 6
```

```
result is : 7 / 3
```

```
choose operation :
```

- 1) add fractions
- 2) subtract fractions

```
0 to exit
```

```
1
```

```
for first fraction :
```



Type here to search



E:\DEVcpp files\24-march\q2\Project8.exe

choose operation :

- 1) add fractions
- 2) subtract fractions
- 0 to exit

1

for first fraction :

enter numerator : 5

enter denominator : 8

for second fraction :

enter numerator : 7

enter denominator : 9

result is : 101 / 72

choose operation :

- 1) add fractions
- 2) subtract fractions

0 to exit

2

for first fraction :

enter numerator : 7

Type here to search



E:\DEVcpp files\24-march\q2\Project8.exe

choose operation :

1) add fractions

2) subtract fractions

[0 to exit](#)

2

for first fraction :

enter numerator : 7

enter denominator : 8

for second fraction :

enter numerator : 3

enter denominator : 8

result is : 1 / 2

choose operation :

1) add fractions

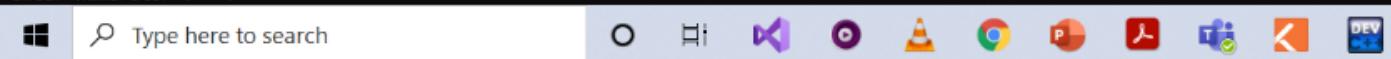
2) subtract fractions

0 to exit

2

for first fraction :

enter numerator : 7



```
E:\DEVcpp files\24-march\q2\Project8.exe
choose operation :

1) add fractions
2) subtract fractions
0 to exit

2

for first fraction :
enter numerator : 7
enter denominator : 5

for second fraction :
enter numerator : 6
enter denominator : 11

result is : 47 / 55

choose operation :

1) add fractions
2) subtract fractions
0 to exit

0

exiting

-----
Process exited after 63.42 seconds with return value 0
Press any key to continue . . .
```

3)

Write a C++ program to negate a Distance class having feet and inches using unary operator overloading. Also overload suitable operators to increase the Distance by 10 times

main.cpp

```
#include <iostream>
```

```

#include "dist.h"
using namespace std;

int main() {

    int f=0,i=0,c=0,j=10;dist d1,d2;

    do
    {

        cout<<" \n\n\n 1. negate dist \n\n 2. multiply dist by 10 times \n\n enter 0 to exit \n\n";
        ";cin>>c;

        switch(c)

        {

            case 0: cout<<"\n\n exiting \n\n";break;

            case 1: cout<<" \n\n enter feets : ";cin>>f;
                      cout<<" \n\n enter inches : ";cin>>i;
                      d1.put(f,i);
                      -d1;
                      cout<<"\n\n result : ";d1.get();break;

            case 2:  cout<<" \n\n enter feets : ";cin>>f;
                      cout<<" \n\n enter inches : ";cin>>i;
                      d2.put(f,i);
                      d2*j;//j=10
                      cout<<"\n\n result : ";d2.get();break;

        }

    }

}

```

```
    default: cout<<"\n\n invalid choice \n\n";break;
}

}while(c!=0);

return 0;
}
```

dist.h

```
#ifndef DIST_H
#define DIST_H

class dist {
private:
    int feets;
    int inches;
public:
    dist() ;
    void put(int f, int i) ;
    void get() ;
    dist operator-() ;
    dist operator*(int j);
};

};
```

```
#endif
```

dist.cpp

```
#include "dist.h"
```

```
#include <iostream>
```

```
using namespace std;
```

```
dist::dist()
```

```
{
```

```
feets = 0;
```

```
inches = 0;
```

```
}
```

```
void dist::put(int f, int i)
```

```
{
```

```
feets = f;
```

```
inches = i;
```

```
}
```

```
void dist::get()
```

```
{
```

```
cout << "\n\n feets : " << feets << "\n\n inches : " << inches ;
```

```
}
```

```
dist dist::operator-()
```

```
{
```

```
feets = -feets;
inches = -inches;
return *(this);
}

dist dist::operator*(int j)
{
    int i=0;
    i=feets*12 + inches;
    i=i*j;//here we magnitude 10 times j=10
    inches=i%12;
    i=i-inches;
    feets=i/12;
    return *(this);
}
```

Project9 - [Project9.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp dist.h dist.cpp

```
1 #ifndef DIST_H
2 #define DIST_H
3
4
5 class dist {
6     private:
7         int feets;
8         int inches;
9     public:
10    dist();
11    void put(int f, int i);
12    void get();
13    dist operator-( );
14    dist operator*(int j);
15
16};
17
18
19
20#endif
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q3\Project9.exe
- Output Size: 1.85443496704102 MiB
- Compilation Time: 0.27s

Line: 15 Col: 29 Sel: 0 Lines: 20 Length: 290 Insert Done parsing in 0.031 seconds

Type here to search

Project9 - [Project9.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp dist.h dist.cpp

Project9

- main.cpp
- dist.h
- dist.cpp

```
1 #include "dist.h"
2 #include <iostream>
3 using namespace std;
4
5
6
7
8
9     dist::dist()
10    {
11        feets = 0;
12        inches = 0;
13    }
14    void dist::put(int f, int i)
15    {
16        feets = f;
17        inches = i;
18    }
19
20
21    void dist::get()
22    {
23        cout << "\n\n feets : " << feets << "\n\n inches : " << inches ;
24    }
25
26
27    dist dist::operator-()
28    {
29        feets = -feets;
    }
```

Compiler Resources Compile Log Debug Find Results

Line: 12 Col: 21 Sel: 0 Lines: 48 Length: 807 Insert Done parsing in 0.031 seconds

Type here to search

Project9 - [Project9.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TD-M-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp dist.h dist.cpp

```
20
21     void dist::get()
22     {
23         cout << "\n\n feets : " << feets << "\n\n inches : " << inches ;
24     }
25
26
27     dist dist::operator-()
28     {
29         feets = -feets;
30         inches = -inches;
31         return *(this);
32     }
33
34     dist dist::operator*(int j)
35     {
36         int i=0;
37         i=feets*12 + inches;
38         i=i*j;//here we magnitude 10 times j=10
39         inches=i%12;
40         i=i-inches;
41         feets=i/12;
42         return *(this);
43
44
45
46     }
47
48 }
```

Compiler Resources Compile Log Debug Find Results

Line: 12 Col: 21 Sel: 0 Lines: 48 Length: 807 Insert Done parsing in 0.031 seconds

Type here to search

Project9 - [Project9.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TD-M-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp dist.h dist.cpp

```
1 #include <iostream>
2 #include "dist.h"
3 using namespace std;
4
5 int main() {
6
7     int f=0,i=0,c=0,j=10;dist d1,d2;
8     do
9     {
10
11         cout<<" \n\n\n\n 1. negate dist \n\n 2. multiply dist by 10 times \n\n enter 0 to exit ";
12
13         switch(c)
14         {
15             case 0: cout<<"\n\n exiting \n\n";break;
16             case 1: cout<<" \n\n enter feets : ";cin>>f;
17                     cout<<" \n\n enter inches : ";cin>>i;
18                     d1.put(f,i);
19                     -d1;
20                     cout<<"\n\n result : ";d1.get();break;
21
22
23
24             case 2:   cout<<" \n\n enter feets : ";cin>>f;
25                     cout<<" \n\n enter inches : ";cin>>i;
26                     d2.put(f,i);
27                     d2*j;//j=10
28                     cout<<"\n\n result : ";d2.get();break;
29
30
31
32
33
34
35
36
37
38
39
40
41 }
```

Compiler Resources Compile Log Debug Find Results

Line: 4 Col: 2 Sel: 0 Lines: 41 Length: 869 Insert Done parsing in 0.031 seconds

Type here to search

Project9 - [Project9.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

main.cpp dist.h dist.cpp

```
13     switch(c)
14 {
15     case 0: cout<<"\n\n exiting \n\n";break;
16     case 1: cout<<" \n\n enter feets : ";cin>>f;
17         cout<<" \n\n enter inches : ";cin>>i;
18         d1.put(f,i);
19         -d1;
20         cout<<"\n\n result : ";d1.get();break;
21
22
23
24     case 2:   cout<<" \n\n enter feets : ";cin>>f;
25     cout<<" \n\n enter inches : ";cin>>i;
26     d2.put(f,i);
27     d2*j;//j=10
28     cout<<"\n\n result : ";d2.get();break;
29
30
31
32
33
34     default: cout<<"\n\n invalid choice \n\n";break;
35 }
36
37 }while(c!=0);
38
39
40 return 0;
41 }
```

Compiler Resources Compile Log Debug Find Results

Line: 4 Col: 2 Sel: 0 Lines: 41 Length: 869 Insert Done parsing in 0.031 seconds

Type here to search

E:\DEVcpp files\24-march\q3\Project9.exe

```
1. negate dist  
2. multiply dist by 10 times
```

```
enter 0 to exit
```

```
1
```

```
enter feets : 4
```

```
enter inches : 6
```

```
result :
```

```
feets : -4
```

```
inches : -6
```

```
1. negate dist
```

```
2. multiply dist by 10 times
```

```
enter 0 to exit
```

```
2
```

```
enter feets : 7
```

```
enter inches : 5
```

```
result :
```

```
feets : 74
```

```
inches : 2
```



Type here to search



E:\DEV\cpp files\24-march\q3\Project9.exe

```
1. negate dist  
2. multiply dist by 10 times  
enter 0 to exit
```

1

```
enter feets : 5
```

```
enter inches : 8
```

```
result :
```

```
feets : -5
```

```
inches : -8
```

```
1. negate dist
```

```
2. multiply dist by 10 times
```

```
enter 0 to exit
```

2

```
enter feets : 4
```

```
enter inches : 8
```

```
result :
```

```
feets : 46
```

```
inches : 8
```

```
1. negate dist
```

```
2. multiply dist by 10 times
```



Type here to search



```
E:\DEVcpp files\24-march\q3\Project9.exe
```

```
inches : -8
```

```
1. negate dist
```

```
2. multiply dist by 10 times
```

```
enter 0 to exit
```

```
2
```

```
enter feets : 4
```

```
enter inches : 8
```

```
result :
```

```
feets : 46
```

```
inches : 8
```

```
1. negate dist
```

```
2. multiply dist by 10 times
```

```
enter 0 to exit
```

```
0
```

```
exiting
```

```
-----  
Process exited after 43.41 seconds with return value 0  
Press any key to continue . . .
```



Type here to search



4)

Create a Stack with appropriate push and pop operations. Design the stack in such a way any kind of data should get stored in the stack. (Use Class Templates)

main.cpp

```
#include <iostream>
#include <string>
#include "stk.h"

using namespace std;

int main ()
{
    int c=0;
    stk<int> istk;
    stk<string> sstk;
    string s;
    int i;

    do
    {
        cout<<"\n\n\n\n 1.push to integer stack \n\n 2.push to string stack \n\n ";
        cout<<" 3.pop from integer stack \n\n 4.pop from string stack \n\n";
        cout<<" enter 0 to exit\n\n";cin>>c;
```

```
switch(c)
{
    case 0: cout<<"\n\n exiting \n\n";break;
    case 1:
        cout<<" \n\n enter integer : ";cin>>i;
        istk.push(i);
        break;

    case 2:  cout<<" \n\n enter string : ";cin>>s;
        sstk.push(s);
        break;

    case 3: cout <<"\n \n popped : " <<istk.pop();break;
    case 4: cout <<"\n \n popped : "<<sstk.pop();break;

    default: cout<<"\n\n invalid choice \n\n";break;
}

}while(c!=0);

return 0;
```

stk.h

```
template <class T>
class stk
{
public:
    stk();
    void push(T i);
    T pop();
private:
    int top;
    T st[100];
};
```

stk.cpp

```
#include "stk.h"
#include <iostream>
#include <string>
using namespace std;
```

```
template <class T>
```

```
stk<T>::stk()
{
    top = -1;
}
```

```
template <class T>
```

```
void stk<T>::push(T i)
{
```

```
        st[++top] = i;  
    }  
  
template <class T>  
T stk<T>::pop()  
{  
    if(top == -1) {  
        cout << " \n stack is empty \n "; exit(1);  
    }  
    return st[top--];  
}  
  
template class stk<int>;  
template class stk<string>;
```

Project10 - [Project10.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project Classes Debug main.cpp stk.h stk.cpp

Project10

main.cpp

stk.h

stk.cpp

```
1
2
3 template <class T>
4 class stk
5 {
6     public:
7         stk();
8         void push(T i);
9         T pop();
10    private:
11        int top;
12        T st[100];
13 }
14
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q4\actual\Project10.exe
- Output Size: 1.88210105895996 MiB
- Compilation Time: 0.27s

Line: 14 Col: 1 Sel: 0 Lines: 14 Length: 232 Insert Done parsing in 0.016 seconds

Type here to search

Project10 - [Project10.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

main.cpp stk.h stk.cpp

```
1 #include <iostream>
2 #include <string>
3 #include "stk.h"
4
5     using namespace std;
6
7
8
9     int main ()
10    {
11        int c=0;
12        stk<int> istk;
13        stk<string> sstk;
14        string s;
15        int i;
16
17
18        do
19        {
20
21            cout<<"\n\n\n\n 1.push to integer stack \n\n 2.push to string stack \n\n";
22            cout<<" 3.pop from integer stack \n\n 4.pop from string stack \n\n";
23            cout<<" enter 0 to exit\n\n";cin>>c;
24
25
26            switch(c)
27            {
28                case 0: cout<<"\n\n exiting \n\n";break;
29                case 1:
```

Compiler Resources Compile Log Debug Find Results

Line: 14 Col: 26 Sel: 0 Lines: 55 Length: 1114 Insert Done parsing in 0.016 seconds

Type here to search

Project10 - [Project10.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

(globals)

main.cpp stk.h stk.cpp

```
26     switch(c)
27 {
28     case 0: cout<<"\n\n exiting \n\n";break;
29     case 1:
30         cout<<" \n\n enter integer : ";cin>>i;
31         istk.push(i);
32         break;
33
34
35
36     case 2:   cout<<" \n\n enter string : ";cin>>s;
37
38         sstk.push(s);
39         break;
40
41     case 3: cout <<"\n \n popped : " <<istk.pop();break;
42     case 4: cout <<"\n \n popped : " <<sstk.pop();break;
43
44
45
46
47
48     default: cout<<"\n\n invalid choice \n\n";break;
49 }
50
51 }while(c!=0);
52
53
54 return 0;
```

Compiler Resources Compile Log Debug Find Results

Line: 14 Col: 26 Sel: 0 Lines: 55 Length: 1114 Insert Done parsing in 0.016 seconds

Type here to search

Project10 - [Project10.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp stk.h stk.cpp

```
1 #include "stk.h"
2 #include <iostream>
3 #include <string>
4 using namespace std;
5
6 template <class T>
7     stk<T>::stk()
8 {
9     top = -1;
10}
11
12 template <class T>
13 void stk<T>::push(T i)
14 {
15     st[++top] = i;
16}
17
18
19 template <class T>
20 T stk<T>::pop()
21 {
22     if(top== -1) {
23         cout<<"\n stack is empty \n ";exit(1);
24     }
25     return st[top--];
26}
27
28 template class stk<int>;
29 template class stk<string>;
```

Compiler Resources Compile Log Debug Find Results

Line: 29 Col: 27 Sel: 0 Lines: 29 Length: 566 Insert Done parsing in 0.016 seconds

Type here to search

E:\DEVcpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

1

```
enter integer : 2
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

1

```
enter integer : 3
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```



Type here to search



E:\DEVcpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

1

```
enter integer : 5
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

3

```
popped : 5
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

3

```
popped : 3
```



Type here to search



E:\DEVcpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

3

popped : 3

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

3

popped : 2

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

2

enter string : hello



Type here to search



E:\DEVcpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

2

```
enter string : hello
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

2

```
enter string : good
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

2



Type here to search



E:\DEVcpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

2

```
enter string : bye
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

4

```
popped : bye
```

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

4

```
popped : good
```



Type here to search



E:\DEV\cpp files\24-march\q4\actual\Project10.exe

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

4

popped : good

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

4

popped : hello

```
1.push to integer stack  
2.push to string stack  
3.pop from integer stack  
4.pop from string stack  
enter 0 to exit
```

0

exiting



Type here to search



```
E:\DEVcpp files\24-march\q4\actual\Project10.exe
```

```
4
```

```
popped : good
```

```
1.push to integer stack
```

```
2.push to string stack
```

```
3.pop from integer stack
```

```
4.pop from string stack
```

```
enter 0 to exit
```

```
4
```

```
popped : hello
```

```
1.push to integer stack
```

```
2.push to string stack
```

```
3.pop from integer stack
```

```
4.pop from string stack
```

```
enter 0 to exit
```

```
0
```

```
exiting
```

```
-----  
Process exited after 72.76 seconds with return value 0  
Press any key to continue . . .
```



Type here to search



5)Write a C++ program to calculate the area of various polygons using Template overloading.

main.cpp

```
#include<iostream>
using namespace std;
#include"templates.h"

int main()
{
    int flag=1;

    int i=0;
    do
    {

        cout<<"\n\n enter choice \n\n 1. area of rectangle\n\n ";
        cout<<" 2. area of square\n\n 3. area of triangle\n\n ";
        cout<<" 4.area of trapezium \n\n press 0 to exit \n\n \n\n ";

        cin>>i;
        switch(i)
        {
            case 0: {   flag=0;
                        cout<<"\n\n exiting \n\n ";break;
                    }

            case 1:
            { int l=0,b=0;
```

```
cout<<"\n enter length \n ";
cin>>l;
cout<<"\n enter breadth \n ";
cin>>b;cout<<"\n\n\n ";
area(l,b);
break;
}
```

case 2:

```
{
int l=0;
cout<<"\n enter length \n ";
cin>>l;cout<<"\n\n\n ";
area(l);
break;
}
```

case 3:

```
{
double c=0.5,int b=0,h=0;
cout<<"\n enter breadth \n ";
cin>>b;
cout<<"\n enter height \n ";
cin>>h;cout<<"\n\n\n ";
area(b,h,c);
break;
}
```

case 4:

```
{
int b1=0,b2=0,h=0;
```

```

cout<<"\n enter the value of lower base\n";
";
cin>>b1;
cout<<"\n enter the value of upper base\n ";
cin>>b2;
cout<<"\n enter height\n ";
cin>>h;cout<<"\n\n\n ";
area(b1,b2,h);
break;

}

default:
{ flag=0;
cout<<"\n \n invalid choice \n\n";
}

}

if(flag)
{
cout<<" is the area in units \n";
}

}while(i!=0);

```

```
    return 0;  
}
```

templates.h

```
#include<iostream>  
using namespace std;  
  
template<class T>  
void area(T b1,T b2,T h)//trapezium  
{  
    cout<<((float)((b1+b2)*h))/2;  
}
```

```
template<class T>  
void area(T l,T b)//rectangle  
{  
    cout<<l*b;  
}
```

```
template<class T,class u>  
void area(T b,T h,u c)//triangle  
{  
    cout<<b*h*c;  
}
```

```
template<class T>  
void area(T l)//square  
{  
    cout<<l*l;
```

Project18 - [Project18.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

IDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp templates.h

Project18

main.cpp templates.h

```
1 #include<iostream>
2 using namespace std;
3
4 template<class T>
5 void area(T b1,T b2,T h)//trapezium
6 {
7     cout<<((float)((b1+b2)*h))/2;
8 }
9
10 template<class T>
11 void area(T l,T b)//rectangle
12 {
13     cout<<l*b;
14 }
15
16 template<class T,class u>
17 void area(T b,T h,u c)//triangle
18 {
19     cout<<b*h*c;
20 }
21
22 template<class T>
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q5\actual 2\Project18.exe
- Output Size: 1.84546947479248 MiB
- Compilation Time: 2.22s

Line: 2 Col: 21 Sel: 0 Lines: 30 Length: 395 Insert Done parsing in 0.015 seconds

Type here to search

Project18 - [Project18.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TD-M-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp templates.h

Project18

main.cpp

templates.h

```
1 #include<iostream>
2 using namespace std;
3
4 template<class T>
5 void area(T b1,T b2,T h)//trapezium
6 {
7     cout<<((float)((b1+b2)*h))/2;
8 }
9
10 template<class T>
11 void area(T l,T b)//rectangle
12 {
13     cout<<l*b;
14 }
15
16 template<class T,class u>
17 void area(T b,T h,u c)//triangle
18 {
19     cout<<b*h*c;
20 }
21
22 template<class T>
23 void area(T l)//square
24 {
25     cout<<l*l;
26 }
27
28
29
```

Compiler Resources Compile Log Debug Find Results

Line: 2 Col: 21 Sel: 0 Lines: 30 Length: 395 Insert Done parsing in 0.015 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface with the following details:

- Title Bar:** Project18 - [Project18.dev] - Dev-C++ 5.11
- Menu Bar:** File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help
- Toolbar:** Includes icons for New, Open, Save, Build, Run, and others.
- Status Bar:** TDM-GCC 4.9.2 64-bit Release
- Project Explorer:** Shows "Project18" with files "main.cpp" and "templates.h".
- Code Editor:** Displays the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3 #include"templates.h"
4
5
6
7 int main()
8 {
9     int flag=1;
10
11     int i=0;
12     do
13     {
14
15         cout<<"\n\n enter choice \n\n 1. area of rectangle\n\n ";
16         cout<<" 2. area of square\n\n 3. area of triangle\n\n ";
17         cout<<" 4.area of trapezium \n\n press 0 to exit \n\n\n ";
18
19
20
21         cin>>i;
22         switch(i)
23         {
24             case 0: { flag=0;
25                         cout<<"\n\n exiting \n\n ";break;
26                     }
27
28             case 1: { int l=0,b=0;
29                     }
30
31         }
32     }
33     while(flag!=0);
34 }
```
- Toolbars:** Compiler, Resources, Compile Log, Debug, Find Results.
- Status Bar:** Line: 18, Col: 75, Sel: 0, Lines: 92, Length: 2400, Insert, Done parsing in 0.015 seconds.
- Taskbar:** Icons for Windows, Search, Task View, Start, File Explorer, Google Chrome, and others.

Project18 - [Project18.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

main.cpp templates.h

```
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
```

cin>>i;
switch(i)
{
 case 0: { flag=0;
 cout<<"\n\n exiting \n\n ";break;
 }

 case 1: { int l=0,b=0;
 cout<<"\n enter length \n ";
 cin>>l;
 cout<<"\n enter breadth \n ";
 cin>>b;cout<<"\n\n\n ";
 area(l,b);
 break;
 }

 case 2: {
 int l=0;
 cout<<"\n enter length \n ";
 cin>>l;cout<<"\n\n\n ";
 area(l);
 break;
 }

 case 3:
}

Compiler Resources Compile Log Debug Find Results

Line: 18 Col: 75 Sel: 0 Lines: 92 Length: 2400 Insert Done parsing in 0.015 seconds

Type here to search

Project18 - [Project18.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

main.cpp templates.h

```
45 }  
46  
47  
48 case 3:  
49 {  
50     double c=0.5;int b=0,h=0;  
51     cout<<"\n enter breadth \n ";  
52     cin>>b;  
53     cout<<"\n enter height \n ";  
54     cin>>h;cout<<"\n\n\n ";  
55     area(b,h,c);  
56     break;  
57 }  
58 case 4:  
59 {  
60     int b1=0,b2=0,h=0;  
61     cout<<"\n enter the value of lower base\n ";  
62     cin>>b1;  
63     cout<<"\n enter the value of upper base\n ";  
64     cin>>b2;  
65     cout<<"\n enter height\n ";  
66     cin>>h;cout<<"\n\n\n ";  
67     area(b1,b2,h);  
68     break;  
69 }  
70 default:  
71 { flag=0;
```

Compiler Resources Compile Log Debug Find Results

Line: 18 Col: 75 Sel: 0 Lines: 92 Length: 2400 Insert Done parsing in 0.015 seconds

Type here to search

Project18 - [Project18.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp templates.h

```
64     cin>>b2;
65     cout<<"\n enter height\n ";
66     cin>>h;cout<<"\n\n\n ";
67     area(b1,b2,h);
68     break;
69
70 }
71
72 default:
73 {
74     flag=0;
75     cout<<"\n \n invalid choice \n\n";
76 }
77
78 if(flag)
79 {
80     cout<<" is the area in units \n";
81 }
82
83 }while(i!=0);
84
85
86
87
88
89
90
91     return 0;
92 }
```

Compiler Resources Compile Log Debug Find Results

Line: 18 Col: 75 Sel: 0 Lines: 92 Length: 2400 Insert Done parsing in 0.015 seconds

Type here to search

E:\DEVcpp files\24-march\q5\actual 2\Project18.exe

```
enter choice  
1. area of rectangle  
2. area of square  
3. area of triangle  
4.area of trapezium  
press 0 to exit
```

1

```
enter length  
5
```

```
enter breadth  
6
```

30 is the area in units

```
enter choice  
1. area of rectangle  
2. area of square  
3. area of triangle  
4.area of trapezium  
press 0 to exit
```

2

```
enter length  
5
```



Type here to search



E:\DEV\cpp files\24-march\q5\actual 2\Project18.exe

```
enter choice  
1. area of rectangle  
2. area of square  
3. area of triangle  
4.area of trapezium
```

```
press 0 to exit
```

2

```
enter length  
5
```

25 is the area in units

```
enter choice  
1. area of rectangle  
2. area of square  
3. area of triangle  
4.area of trapezium
```

```
press 0 to exit
```

3

```
enter breadth  
7
```

```
enter height  
8
```



Type here to search



```
E:\DEVcpp files\24-march\q5\actual 2\Project18.exe
enter choice

1. area of rectangle

2. area of square

3. area of triangle

4.area of trapezium

press 0 to exit
```

3

```
enter breadth
7
```

```
enter height
8
```

28 is the area in units

```
enter choice
```

```
1. area of rectangle

2. area of square

3. area of triangle

4.area of trapezium
```

```
press 0 to exit
```

5

invalid choice

```
enter choice
```



Type here to search



```
E:\DEVcpp files\24-march\q5\actual 2\Project18.exe
```

```
enter choice
```

```
1. area of rectangle
```

```
2. area of square
```

```
3. area of triangle
```

```
4.area of trapezium
```

```
press 0 to exit
```

```
4
```

```
enter the value of lower base
```

```
8
```

```
enter the value of upper base
```

```
4
```

```
enter height
```

```
6
```

```
36
```

```
enter choice
```

```
1. area of rectangle
```

```
2. area of square
```

```
3. area of triangle
```

```
4.area of trapezium
```

```
press 0 to exit
```

```
0
```

```
exiting
```



Type here to search



```
E:\DEVcpp files\24-march\q5\actual 2\Project18.exe
```

```
3. area of triangle
```

```
4.area of trapezium
```

```
press 0 to exit
```

```
4
```

```
enter the value of lower base
```

```
8
```

```
enter the value of upper base
```

```
4
```

```
enter height
```

```
6
```

```
36
```

```
enter choice
```

```
1. area of rectangle
```

```
2. area of square
```

```
3. area of triangle
```

```
4.area of trapezium
```

```
press 0 to exit
```

```
0
```

```
exiting
```

```
-----  
Process exited after 45.49 seconds with return value 0  
Press any key to continue . . .
```



Type here to search



6)Write a C++ program to generate Fibonacci series using function templates.

main.cpp

```
#include<iostream>
using namespace std;
#include"fib.h"

int main(){
    int n;
    do
    {
        cout<<" \n\n\n enter number terms of the series you want to generate,0 to exit : ";
        cin>>n;
        if(n!=0)
        {
            cout<<"\n\n\n fibonacci Series: ";
            fib(n);
        }
    }while(n!=0);
    return 0;
}
```

fib.h

```
#include<iostream>
using namespace std;
template <class t>
void fib(t n) {
    t f[n];
```

```
t i;  
f[0] = 0;  
f[1] = 1;  
for (i = 2; i < n; i++)  
{  
    f[i] = f[i-1] + f[i-2];  
}  
for (i = 0; i < n; i++)  
{  
    cout<<f[i]<<" ";  
}  
}
```

Project15 - [Project15.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug

Project15

main.cpp fib.h

fib.h main.cpp

```
1 #include<iostream>
2 using namespace std;
3 template <class t>
4 void fib(t n) {
5     t f[n];
6     t i;
7     f[0] = 0;
8     f[1] = 1;
9     for (i = 2; i < n; i++) {
10         f[i] = f[i-1] + f[i-2];
11     }
12     for (i = 0; i < n; i++) {
13         cout<<f[i]<<" ";
14     }
15 }
16
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q6\actual 2\Project15.exe
- Output Size: 1.84365367889404 MiB
- Compilation Time: 0.27s

Line: 6 Col: 5 Sel: 0 Lines: 16 Length: 270 Insert Done parsing in 0.016 seconds

Type here to search

Project15 - [Project15.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug fib.h main.cpp

```
1 #include<iostream>
2 using namespace std;
3 #include "fib.h"
4
5 int main(){
6     int n;
7     do
8     {
9         cout<<" \n\n\n enter number terms of the series you want to generate,0 to exit
10        cin>>n;
11        if(n!=0)
12        {
13            cout<<"\n\n\n fibonacci Series: ";
14            fib(n);
15        }
16    }
17    while(n!=0) ;
18
19    return 0;
20 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\q6\actual 2\Project15.exe
- Output Size: 1.84365367889404 MiB
- Compilation Time: 0.27s

Line: 6 Col: 11 Sek: 0 Lines: 21 Length: 372 Insert Done parsing in 0.016 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The main window displays a C++ code editor with the file 'main.cpp' open. The code prompts the user to enter the number of terms for a Fibonacci series and then generates the series using a recursive function 'fib'. The code editor has syntax highlighting and line numbers. Below the editor is a toolbar with various icons for compilation, resources, and debugging. A status bar at the bottom provides information about the current line, column, and file size. The taskbar at the bottom of the screen shows other open applications like FileZilla, VLC, and Google Chrome.

```
E:\DEVcpp files\24-march\q6\actual 2\Project15.exe

enter number terms of the series you want to generate,0 to exit : 5

fibonacci Series: 0 1 1 2 3

enter number terms of the series you want to generate,0 to exit : 7

fibonacci Series: 0 1 1 2 3 5 8

enter number terms of the series you want to generate,0 to exit : 8

fibonacci Series: 0 1 1 2 3 5 8 13

enter number terms of the series you want to generate,0 to exit : 10

fibonacci Series: 0 1 1 2 3 5 8 13 21 34

enter number terms of the series you want to generate,0 to exit : 0

-----
Process exited after 30.18 seconds with return value 0
Press any key to continue . . .


```



7)

Illustrate the usage of static variables in class templates and function templates by taking an example of your own.

main.cpp

```

#include <iostream>
#include "finance.h"
using namespace std;

int main()
{
    cout<<"\n\n we have defined class finance with static int income \n ";
    finance<int> f1;cout<<"\n we have declared finance<int> f1\n ";
    finance<float> f2;cout<<"\n we have declared finance<float> f2 \n";
    cout<<"\n we have tried to initialize income with a float value \n ";
    cout<<" \n\n template <class T> T finance<T>::income = 1256.89 ";
    cout<<" \n\n value of income in finance <int>f1 = ";
    f1.disp();cout<<" which is a int";
    cout<<" \n\n value of income in finance <float>f2 = ";
    f2.disp();cout<<" which is a float";

    cout<<"\n\n we have member function which ";
    cout<<"multiplies the static var by 10 and displays it \n\n ";
    f1.mod_disp();cout<<" is modified value after f1.mod_disp() \n\n ";
    f2.mod_disp();cout<<" is modified value after f2.mod_disp() \n\n ";
    cout<<" \n\n note that modification in static var in f1 didnt reflect in f2";
    cout<<" \n\n as other wise value would have been another 10 times\n\n\n";

    return 0;
}

```

finanace.h

```
#ifndef FINANCE_H
```

```
#define FINANCE_H
```

```
template <class T>
```

```
class finance
```

```
{
```

```
public:
```

```
    void mod_disp();
```

```
    void disp();
```

```
private:
```

```
    static T income;
```

```
};
```

```
#endif
```

finance.cpp

```
#include "finance.h"
```

```
#include <iostream>
```

```
using namespace std;
```

```
template <class T>
```

```
void finance<T>::mod_disp()
```

```
{
```

```
    income=income*10;
```

```
    cout << income ;
```

```
}
```

```
template <class T>
```

```
void finance<T>::disp()
```

```
{
```

```
cout << income ;  
}  
  
template <class T> T finance<T>::income = 1256.89;  
  
template class finance<int>;  
template class finance<float>;
```

The screenshot shows the Dev-C++ IDE interface. The top menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar contains various icons for file operations like Open, Save, Find, and Build. The status bar at the bottom shows the current line (Line: 13), column (Col: 3), selection (Sel: 0), lines (Lines: 15), length (Length: 175), and a message indicating parsing completed in 0.031 seconds.

Project16 - [Project16.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp finance.h finance.cpp

Project16

main.cpp finance.h finance.cpp

```
1 #ifndef FINANCE_H
2 #define FINANCE_H
3
4
5 template <class T>
6 class finance
7 {
8 public:
9     void mod_disp();
10    void disp();
11 private:
12     static T income;
13 };
14
15 #endif
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp\files\24-march\q7\Project16.exe
- Output Size: 1.85569000244141 MiB
- Compilation Time: 4.11s

Line: 13 Col: 3 Sel: 0 Lines: 15 Length: 175 Insert Done parsing in 0.031 seconds

Project16 - [Project16.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp finance.h finance.cpp

Project16

- main.cpp
- finance.h
- finance.cpp

```
1 #include "finance.h"
2 #include <iostream>
3
4 using namespace std;
5
6 template <class T>
7 void finance<T>::mod_disp()
8 {
9     income=income*10;
10    cout << income ;
11 }
12 template <class T>
13 void finance<T>::disp()
14 {
15     cout << income ;
16 }
17
18 template <class T> T finance<T>::income = 1256.89;
19
20 template class finance<int>;
21 template class finance<float>;
```

Compiler Resources Compile Log Debug Find Results

Line: 22 Col: 29 Sel: 0 Lines: 22 Length: 369 Insert Done parsing in 0.031 seconds

Type here to search

Project16 - [Project16.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDN-GCC 4.9.2 64-bit Release

Project Classes Debug

Project16

main.cpp finance.h finance.cpp

```
1 #include <iostream>
2 #include "finance.h"
3 using namespace std;
4
5
6
7
8 int main()
9 {
10    cout<<"\n\n we have defined class finance with static int income \n ";
11    finance<int> f1;cout<<"\n we have declared finance<int> f1\n ";
12    finance<float> f2;cout<<"\n we have declared finance<float> f2 \n";
13    cout<<"\n we have tried to initialize income with a float value \n ";
14    cout<<"\n\n      template <class T> T finance<T>::income = 1256.89 ";
15    cout<<"\n\n      value of income in finance <int>f1 = ";
16    f1.disp();cout<<" which is a int";
17    cout<<"\n\n      value of income in finance <float>f2 = ";
18    f2.disp();cout<<" which is a float";
19
20    cout<<"\n\n we have member function which ";
21    cout<<"multiplies the static var by 10 and displays it \n\n ";
22    f1.mod_disp();cout<<" is modified value after f1.mod_disp() \n\n ";
23
24    f2.mod_disp();cout<<" is modified value after f2.mod_disp() \n\n ";
25    cout<<"\n\n\n      note that modification in static var in f1 didnt reflect in f2";
26    cout<<"\n\n      as otherwise value would have been another 10 times\n\n\n";
27
28    return 0;
29 }
```

Compiler Resources Compile Log Debug Find Results

Line: 26 Col: 11 Sel: 0 Lines: 29 Length: 1139 Insert Done parsing in 0.016 seconds

Type here to search

█ Select E:\DEVcpp files\24-march\q7\Project16.exe

```
we have defined class finance with static int income
we have declared finance<int> f1
we have declared finance<float> f2
we have tried to initialize income with a float value

template <class T> T finance<T>::income = 1256.89

value of income in finance <int>f1 = 1256 which is a int

value of income in finance <float>f2 = 1256.89 which is a float
we have member function which multiplies the static var by 10 and displays it
12560 is modified value after f1.mod_disp()
12568.9 is modified value after f2.mod_disp()
```

```
note that modification in static var in f1 didnt reflect in f2
as other wise value would have been another 10 times
```

```
-----
Process exited after 9.919 seconds with return value 0
Press any key to continue . . .
```



Type here to search



Additional Exercises

Fill in the missing code

Question 1:

```
#include<iostream>
#include<cstring>
using namespace std;
class String
{
private:
char *s;
int size;
public:
String(const char *str = NULL); // constructor
~String() { delete [] s;}// destructor
String(const String&); // copy constructor
void print() { cout << s << endl; } // Function to print string
void change(const char *); // Function to change
};
String::String(const char *str)
{
size = strlen(str);
s = new char[size+1];
strcpy(s, str);
}
void String::change(const char *str)
{
}
String::String(const String& old_str)
{
}
```

```

int main()
{
    String str1("GeeksQuiz");
    String str2 = str1;
    str1.print(); // what is printed ?
    str2.print();
    str2.change("GeeksforGeeks");
    str1.print(); // what is printed now ?
    str2.print();
    return 0;
}

```

Answer : ~~delete [] s ;~~

Question 2:

```

#include<iostream>
using namespace std;
class Test
{
private:
    int x;
    int y;
public:
    Test (int x = 0, int y = 0) {}

    Test setX(int a) { x = a; return *this; }

    Test setY(int b) { y = b; return *this; }

    void print() { cout << "x = " << x << " y = " << y << endl; }

};

```

```
int main()
{
    Test obj1;
    obj1.setX(10).setY(20);
    obj1.print();
    return 0;
}
```

Answer: **return *this**

Predict the output and give justifications.

Question 3:

```
#include<iostream>
using namespace std;

class Test

{
private:
    int x;
    int y;
public:
    Test(int x = 0, int y = 0) { this->x = x; this->y = y; }

    static void fun1() { cout << "Inside fun1()"; }

    static void fun2() { cout << "Inside fun2()"; this->fun1(); }

};

int main()
{
    Test obj;
```

```
obj.fun2();  
return 0;  
}
```

Answer:

compilation error occurs as in fun2() a static member function is trying to use “this” pointer .static member functions do not have a distinct object associated with them , and can hence can only access either static data members or objects passed as parameters to it.

Question 4:

```
using namespace std;  
  
class Test {  
  
    int value;  
  
public:  
  
    Test(int v = 0) {value = v;}  
  
    int getValue() const { return ++value;}  
};  
  
int main() {  
    Test t(20);  
  
    cout<<t.getValue();  
  
    return 0;  
}
```

Answer:

compilation error as getvalue() is a const member function and thus should not be able to alter data members of an object

Question 5:

```
class Test {  
    static Test * fun()  
    {  
        return this;  
    }  
};  
int main()  
{  
    getchar();  
    return 0;  
}
```

Answer :

Compilation error.Fun() is a static member function and thus cannot use ‘this’ pointer

Question 6:

```
#include<iostream>  
using namespace std;  
class Test  
{
```

```
private:  
static int count;  
  
public:  
Test& fun();  
};  
  
int Test::count = 0;  
  
Test& Test::fun()  
{  
Test::count++;  
cout << Test::count << " ";  
return *this;  
}  
  
int main()  
{  
Test t;  
t.fun().fun().fun().fun();  
return 0;  
}
```

Answer:

no errors and output will be:

1 2 3 4

(reason: associativity of ‘.’ Operator is left to right and count will be increment each time fun() is called by a different object as count is a static data member)

Question 7:

```
#include<iostream>
using namespace std;
class Point {
public:
Point() { cout << "Normal Constructor calledn"; }
Point(const Point &t) { cout << "Copy constructor calledn"; }
};
int main()
{
Point *t1, *t2;
t1 = new Point();
t2 = new Point(*t1);
Point t3 = *t1;
Point t4;
t4 = t3;
return 0;
}
```

Answer :

t1 = new Point(); will call normal constructor

t2 = new Point(*t1); will call copy constructor passing t1 by reference as parameter

Point t3 = *t1; will call copy constructor passing t1 by reference as parameter

Point t4; will call normal constructor, therefore :

Output:

Normal Constructor called

Copy Constructor called

Copy Constructor called

Normal Constructor called

Question 8:

A program to demonstrate the concept of constructors and destructor

```
#include<iostream.h>
#include<conio.h>
#include<stdlib.h>

class DEPOSIT
{
    long int principal;
    int time;
    float rate;
    float totalamount;
public:
    DEPOSIT(); // #1
    DEPOSIT(long p, int t, float r); // #2
    DEPOSIT(long p, int t); // #3
    DEPOSIT(long p, float r); // #4
    DEPOSIT(const Deposit &d); // #5
    ~DEPOSIT();
    void calculateamount(void);
    void display(void);
};
```

main.cpp

```
#include<iostream>
#include<cstdlib>
using namespace std;
#include "DEPOSIT.h"

int main()
{
    DEPOSIT a;
    DEPOSIT b(1000, 2, 1.00f);
    DEPOSIT c(2000, 1);
    DEPOSIT d(3000, 2.00f);
    DEPOSIT e(b);

    a.calculateamount();
    b.calculateamount();
    c.calculateamount();
    d.calculateamount();
    e.calculateamount();

    cout<<"\n\n\n\n DEPOSIT a : \n";
    a.display();
    cout<<"\n\n\n\n DEPOSIT b(1000, 2, 1f) : \n";
    b.display();
    cout<<"\n\n\n\n DEPOSIT c(2000, 1) : \n";
    c.display();
    cout<<"\n\n\n\n DEPOSIT d(3000, 2f) : \n";
    d.display();
```

```
cout<<"\n\n\n\n  Deposit e(b) : \n";
e.display();

return 0;
}
```

DEPOSIT.h

```
#ifndef DEPOSIT_H
#define DEPOSIT_H

class DEPOSIT
{
    long int principal;
    int time;
    float rate;
    float totalamount;

public:
    DEPOSIT();
    DEPOSIT(long p, int t, float r);
    DEPOSIT(long p, int t);
    DEPOSIT(long p, float r);
    DEPOSIT(const DEPOSIT &d);
    ~DEPOSIT();
    void calculateamount(void);
    void display(void);
};

#endif
```

DEPOSIT.cpp

```
#include "DEPOSIT.h"
#include<iostream>
#include<cstdlib>
using namespace std;

DEPOSIT::DEPOSIT()
{
    principal = time = rate = 0.0;
}

DEPOSIT::DEPOSIT(long p, int t, float r)
{
    principal = p;
    time = t;
    rate = r;
}

DEPOSIT::DEPOSIT(long p, int t)
{
    principal = p;
    time = t;
    rate = 1;
}

DEPOSIT::DEPOSIT(long p, float r)
{
    principal = p;
    time = 1;
```

```

rate = r;
}

DEPOSIT::DEPOSIT(const DEPOSIT &d)
{
    principal = d.principal;
    time = d.time;
    rate = d.rate ;
}

DEPOSIT::~DEPOSIT()
{
    cout<<" \n\n calling destructor \n\n";
}

void DEPOSIT::calculateamount(void)
{
    totalamount = principal + (((float)principal/100)*time*rate);
}

void DEPOSIT::display(void)
{
    cout<<"\n principal : "<<principal<<"\n";
    cout<<"\n time : "<<time<<" years\n";
    cout<<"\n interest rate : "<<rate<<"\n";
    cout<<"\n total amount : "<<totalamount<<"\n";
}

```

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp DEPOSIT.h DEPOSIT.cpp

Project20

- main.cpp
- DEPOSIT.h
- DEPOSIT.cpp

```
2 #define DEPOSIT_H
3
4 class DEPOSIT
5 {
6     long int principal;
7     int time;
8     float rate;
9     float totalamount;
10
11    public:
12        DEPOSIT();
13        DEPOSIT(long p, int t, float r);
14        DEPOSIT(long p, int t);
15        DEPOSIT(long p, float r);
16        DEPOSIT(const DEPOSIT& d);
17        // 1/ 5 public constructor DEPOSIT::DEPOSIT (const DEPOSIT &d)
18        void calculateamount(void);
19        void display(void);
20    };
21
22 #endif
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

Processing makefile...

- Makefile Processor: C:\Program Files (x86)\Dev-Cpp\MinGW64\bin\mingw32-make.exe
- Command: mingw32-make.exe -f "E:\DEVcpp files\24-march\trial 1\Makefile.win" all

g++.exe -c main.cpp -o main.o -I"C:/Program Files (x86)/Dev-Cpp/MinGW64/include" -I"C:/Program Files (x86)/Dev-Cpp/MinGW64/include/c++/v2"
g++.exe main.o DEPOSIT.o -o Project20.exe -L"C:/Program Files (x86)/Dev-Cpp/MinGW64/lib" -L"C:/Program Files (x86)/Dev-Cpp/MinGW64/lib/c++/v2"

Compilation results

Line: 16 Col: 38 Sel: 0 Lines: 22 Length: 542 Insert Done parsing in 0.031 seconds

Type here to search

Windows Start button Taskbar icons

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp DEPOSIT.h DEPOSIT.cpp

```
1 #include "DEPOSIT.h"
2 #include<iostream>
3 #include<cstdlib>
4 using namespace std;
5
6
7 DEPOSIT::DEPOSIT()
8 {
9     principal = time = rate = 0.0;
10 }
11
12 DEPOSIT::DEPOSIT(long p, int t, float r)
13 {
14     principal = p;
15     time = t;
16     rate = r;
17 }
18 DEPOSIT::DEPOSIT(long p, int t)
19 {
20     principal = p;
21     time = t;
22     rate = 1;
23 }
24
25 DEPOSIT::DEPOSIT(long p, float r)
26 {
27     principal = p;
28     time = 1;
29     rate = r;
30 }
```

Compiler Resources Compile Log Debug Find Results

Line: 44 Col: 36 Sel: 0 Lines: 56 Length: 1046 Insert Done parsing in 0.031 seconds

Type here to search

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug main.cpp DEPOSIT.h DEPOSIT.cpp

```
24
25 DEPOSIT::DEPOSIT(long p, float r)
26 {
27     principal = p;
28     time = 1;
29     rate = r;
30 }
31 DEPOSIT::DEPOSIT(const DEPOSIT &d)
32 {
33     principal = d.principal;
34     time = d.time;
35     rate = d.rate ;
36 }
37 DEPOSIT::~DEPOSIT()
38 {
39     cout<<" \n\n calling destructor \n\n";
40 }
41
42 void DEPOSIT::calcaamount(void)
43 {
44     totalamount = principal + (((float)principal/100)*time*rate);
45 }
46
47 void DEPOSIT::display(void)
48 {
49
50     cout<<"\n    principal : "<<principal<<"\n";
51     cout<<"\n    time : " <<time<<" years\n";
52     cout<<"\n    interest rate : "<<rate<<"\n";
53 }
```

Compiler Resources Compile Log Debug Find Results

Line: 44 Col: 36 Sel: 0 Lines: 56 Length: 1046 Insert Done parsing in 0.031 seconds

Type here to search

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug

main.cpp DEPOSIT.h DEPOSIT.cpp

```
28     time = 1;
29     rate = r;
30 }
31 DEPOSIT::DEPOSIT(const DEPOSIT &d)
32 {
33     principal = d.principal;
34     time = d.time;
35     rate = d.rate ;
36 }
37 DEPOSIT::~DEPOSIT()
38 {
39     cout<<"\n\n  calling destructor  \n\n";
40 }
41
42 void DEPOSIT::calculateamount(void)
43 {
44     totalamount = principal + (((float)principal/100)*time*rate);
45 }
46
47 void DEPOSIT::display(void)
48 {
49
50     cout<<"\n  principal : "<<principal<<"\n";
51     cout<<"\n  time : " <<time<<" years\n";
52     cout<<"\n  interest rate : "<<rate<<"\n";
53     cout<<"\n  total amount : "<<totalamount<<"\n";
54 }
55
56
```

Compiler Resources Compile Log Debug Find Results

Line: 44 Col: 36 Sel: 0 Lines: 56 Length: 1046 Insert Done parsing in 0.031 seconds

Type here to search

The screenshot shows the Dev-C++ IDE interface. The main window displays a C++ code editor with syntax highlighting for variables like 'principal', 'time', 'rate', and 'totalamount'. The code defines a class 'DEPOSIT' with methods for calculating interest and displaying results. The project tree on the left shows files 'main.cpp', 'DEPOSIT.h', and 'DEPOSIT.cpp'. The status bar at the bottom provides information about the current line (44), column (36), and total length (1046). Below the status bar is a search bar and a toolbar with various icons.

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp DEPOSIT.h DEPOSIT.cpp

```
1 #include<iostream>
2 #include<cstdlib>
3 using namespace std;
4 #include "DEPOSIT.h"
5
6
7 int main()
8 {
9     DEPOSIT a;
10    DEPOSIT b(1000, 2, 1.00f);
11    DEPOSIT c(2000, 1);
12    DEPOSIT d(3000, 2.00f);
13    DEPOSIT e(b);
14
15    a.calculateamount();
16    b.calculateamount();
17    c.calculateamount();
18    d.calculateamount();
19    e.calculateamount();
20
21    cout<<"\n\n\n\n    DEPOSIT a : \n";
22    a.display();
23    cout<<"\n\n\n\n    DEPOSIT b(1000, 2, 1f) : \n";
24    b.display();
25    cout<<"\n\n\n\n    DEPOSIT c(2000, 1) : \n";
26    c.display();
27    cout<<"\n\n\n\n    DEPOSIT d(3000, 2f) : \n";
28    d.display();
29    cout<<"\n\n\n\n    Deposit e(b) : \n";
```

Compiler Resources Compile Log Debug Find Results

Line: 29 Col: 25 Sel: 0 Lines: 33 Length: 793 Insert Done parsing in 0.031 seconds

Type here to search

Project20 - [Project20.dev] - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp DEPOSIT.h DEPOSIT.cpp

Project20
main.cpp
DEPOSIT.h
DEPOSIT.cpp

```
5
6
7 int main()
8 {
9     DEPOSIT a;
10    DEPOSIT b(1000, 2, 1.00f);
11    DEPOSIT c(2000, 1);
12    DEPOSIT d(3000, 2.00f);
13    DEPOSIT e(b);
14
15    a.calculateamount();
16    b.calculateamount();
17    c.calculateamount();
18    d.calculateamount();
19    e.calculateamount();
20
21    cout<<"\n\n\n\n    DEPOSIT a : \n";
22    a.display();
23    cout<<"\n\n\n\n    DEPOSIT b(1000, 2, 1f) : \n";
24    b.display();
25    cout<<"\n\n\n\n    DEPOSIT c(2000, 1) : \n";
26    c.display();
27    cout<<"\n\n\n\n    DEPOSIT d(3000, 2f) : \n";
28    d.display();
29    cout<<"\n\n\n\n    Deposit e(b) : \n";
30    e.display();
31
32
33 }
```

Compiler Resources Compile Log Debug Find Results

Line: 29 Col: 25 Sel: 0 Lines: 33 Length: 793 Insert Done parsing in 0.031 seconds

Type here to search

E:\DEV\cpp files\24-march\trial 1\Project20.exe

```
DEPOSIT a :  
principal : 0  
time : 0 years  
interest rate : 0  
total amount : 0
```

```
DEPOSIT b(1000, 2, 1f) :  
principal : 1000  
time : 2 years  
interest rate : 1  
total amount : 1020
```

```
DEPOSIT c(2000, 1) :  
principal : 2000  
time : 1 years  
interest rate : 1  
total amount : 2020
```

```
DEPOSIT d(3000, 2f) :  
principal : 3000  
time : 1 years  
interest rate : 2
```



Type here to search



E:\DEVcpp files\24-march\trial 1\Project20.exe

DEPOSIT d(3000, 2f) :

principal : 3000

time : 1 years

interest rate : 2

total amount : 3060

Deposit e(b) :

principal : 1000

time : 2 years

interest rate : 1

total amount : 1020

calling destructor

calling destructor

calling destructor

calling destructor

calling destructor

Process exited after 1.302 seconds with return value 0
Press any key to continue . . .



Type here to search



Question 9:**A program to demonstrate the concept of returning objects from a function**

```
#include<iostream.h>

class weight

{
int kilogram;

int gram;

public:

void getdata ();

void putdata ();

void sum_weight (weight,weight) ; weight sum_weight (weight) ;

};
```

main.cpp

```
#include<iostream>

using namespace std;

#include "weight.h"

int main()

{

    weight w1,w2,w3;

    cout<<" \n\n\n for w1: ";

    w1.getdata();

    cout<<" \n\n\n for w2: ";

    w2.getdata();cout<<" \n\n\n w3.sum_weight(w1,w2) will add weights of w1,w2 and
assign it to w3 \n\n";

    w3.sum_weight(w1,w2);cout<<"\n w3: \n ";w3.putdata();

    cout<<"\n\n\n w1.sum_weight(w2).putdata() will add weight of w2 to w1 and
display it\n   ";
```

```
w1.sum_weight(w2).putdata();  
  
    return 0;  
}  
  
}
```

weight.h

```
#ifndef WEIGHT_H  
#define WEIGHT_H  
  
class weight  
{  
    int kilogram;  
    int gram;  
public:  
    void getdata ();  
    void putdata ();  
    void sum_weight (weight,weight) ; weight sum_weight (weight) ;  
    friend void reduce(weight &);  
};  
#endif
```

weight.cpp

```
#include "weight.h"  
#include<iostream>  
using namespace std;
```

```
void weight::getdata ()
{
    cout<<"\n\n enter kg and grams : ";cin>>kilogram>>gram;
    reduce(*this);

}

void reduce(weight &w)
{
    int tot=w.kilogram*1000 + w.gram;
    w.gram=tot%1000;
    tot -=w.gram;
    w.kilogram=tot/1000;
}

void weight::putdata ()
{
    cout<<"\n\n "<<kilogram<<" kilogram and "<<gram<<" grams\n ";
}

void weight::sum_weight (weight w1,weight w2)
{
    kilogram=w1.kilogram+w2.kilogram;
    gram=w1.gram+w2.gram;
    reduce(*this);

}

weight weight::sum_weight (weight w2)
```

```
{  
kilogram+=w2.kilogram;  
gram+=w2.gram;  
reduce(*this);  
return (*this);
```

```
}
```

Project21 - [Project21.dev] - Dev-C++ 5.11

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TD-M-GCC 4.9.2 64-bit Release

Project Classes Debug

Project21

main.cpp weight.h weight.cpp

```
1 #include<iostream>
2 using namespace std;
3 #include "weight.h"
4
5 int main()
6 {
7     weight w1,w2,w3;
8     cout<<" \n\n\n for w1: ";
9     w1.getdata();
10    cout<<" \n\n\n for w2: ";
11    w2.getdata();cout<<" \n\n\n w3.sum_weight(w1,w2) will add weights of w1,w2 and assign it to w3 \n\n";
12    w3.sum_weight(w1,w2);cout<<"\n   w3: \n ";w3.putdata();
13    cout<<"\n\n\n w1.sum_weight(w2).putdata() will add weight of w2 to w1 and display it\n   ";
14    w1.sum_weight(w2).putdata();
15
16
17
18    return 0;
19 }
20
21
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

```
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\trial 2\Project21.exe
- Output Size: 1.85396671295166 MiB
- Compilation Time: 1.77s
```

Line: 5 Col: 1 Sel: 0 Lines: 21 Length: 488 Insert Done parsing in 0.031 seconds

Project21 - [Project21.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TD-M-GCC 4.9.2 64-bit Release

Project Classes Debug

Project21

main.cpp weight.h weight.cpp

```
1 ifndef WEIGHT_H
2 define WEIGHT_H
3
4 class weight
5 {
6     int kilogram;
7     int gram;
8     public:
9     void getdata ();
10    void putdata ();
11    void sum_weight (weight,weight) ; weight sum_weight (weight) ;
12    friend void reduce(weight &);
13 }
14 endif
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

```
- Errors: 0
- Warnings: 0
- Output Filename: E:\DEVcpp files\24-march\trial 2\Project21.exe
- Output Size: 1.85396671295166 MiB
- Compilation Time: 1.77s
```

Line: 13 Col: 4 Sel: 0 Lines: 14 Length: 241 Insert Done parsing in 0.031 seconds

Project21 - [Project21.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp weight.h weight.cpp

Project21

```
1 #include "weight.h"
2 #include<iostream>
3 using namespace std;
4
5 void weight::getdata ()
6 {
7     cout<<"\n\n enter kg and grams : "; cin>>kilogram>>gram;
8     reduce(*this);
9 }
10
11 void reduce(weight &w)
12 {
13     int tot=w.kilogram*1000 + w.gram;
14     w.gram=tot%1000;
15     tot -=w.gram;
16     w.kilogram=tot/1000;
17 }
18 void weight::putdata ()
19 {
20     cout<<"\n\n " <<kilogram<<" kilogram and "<<gram<<" grams\n ";
21 }
22 void weight::sum_weight (weight w1,weight w2)
23 {
24     kilogram=w1.kilogram+w2.kilogram;
25     gram=w1.gram+w2.gram;
26     reduce(*this);
27 }
28
29
```

Compiler Resources Compile Log Debug Find Results

Line: 5 Col: 14 Sel: 0 Lines: 38 Length: 671 Insert Done parsing in 0.031 seconds

Type here to search

Project21 - [Project21.dev] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug main.cpp weight.h weight.cpp

Project21

```
10 L }
11 void reduce(weight &w)
12 {
13     int tot=w.kilogram*1000 + w.gram;
14     w.gram=tot%1000;
15     tot -=w.gram;
16     w.kilogram=tot/1000;
17 }
18 void weight::putdata ()
19 {
20     cout<<"\n\n    "<<kilogram<<" kilogram and "<<gram<<" grams\n    ";
21 }
22 void weight::sum_weight (weight w1,weight w2)
23 {
24     kilogram=w1.kilogram+w2.kilogram;
25     gram=w1.gram+w2.gram;
26     reduce(*this);
27 }
28 }
29
30 weight weight::sum_weight (weight w2)
31 {
32     kilogram+=w2.kilogram;
33     gram+=w2.gram;
34     reduce(*this);
35     return (*this);
36 }
37
38 }
```

Compiler Resources Compile Log Debug Find Results

Line: 5 Col: 14 Sel: 0 Lines: 38 Length: 671 Insert Done parsing in 0.031 seconds

Type here to search



```
E:\DEVcpp files\24-march\trial 2\Project21.exe
for w1:
    enter kg and grams : 5 600

for w2:
    enter kg and grams : 7 200

w3.sum_weight(w1,w2) will add weights of w1,w2 and assign it to w3

w3:
12 kilogram and 800 grams

w1.sum_weight(w2).putdata() will add weight of w2 to w1 and display it

12 kilogram and 800 grams
-----
Process exited after 22.76 seconds with return value 0
Press any key to continue . . .
```



Type here to search

