LINK-2C++2018_Operator Ove | LINK-2C++2018_Operator Ove

https://www.hackerrank.com/tests/86ef5aejh4t/questions/6ook29imp99 60%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

☆ COMPLEX NUMBERS

Write a program to overload following operators +, -, and * to perform addition, subtraction,and multiplication on given complex numbers.

Sample Input

4 6
2 1
1 2
3 2

Sample Output

7-1i

Explanation

Sample Input : Four complex numbers are given
In first line, first number is the real part and 2nd number is the imaginary part of first complex number.
In second line, first number is the real part and 2nd number is the imaginary part of second complex number.
In third line, first number is the real part and 2nd number is the imaginary part of third complex number.
In forth line, first number is the real part and 2nd number is the imaginary part of forth complex number.

Sample Output

Result of C1+C2-C3*C4 means (4+6i)+(2+1i)-(1+2i)*(3+2i)

Original code | C++

```
#include ↔

using namespace std;
class complex
    {
   int r,i;
    public:

complex()
{
    cin>>r>>i;
}
complex operator +(complex w)
{
    complex q;
    q.r=r+w.r;
    q.i=i+w.i;
    return q;

}
complex operator -(complex w)
{
    complex q;
    q.r=r-w.r;
    q.i=i-w.i;
    return q;

}
complex operator *(complex w)
{
    complex q;
    q.r=(r*w.r)+((-1)*(i*w.i));
    q.i=(r*w.i)+(w.r*i);
    return q;

}
void show()
{
    if(i<0)
        cout<<r<<i<<"i";
    else
        cout<<r<<"+"<<i<<"i";
}
};

int main() {↔}

```

Line: 30 Col: 1

ENG INTL 5:09 PM 29-Aug-18

Unary Op Overloading for Time

Write a program to overload pre increment (++) and pre decrement (--) operators for a time (seconds)

Sample Input

6 59 59

Sample Output

Entered Time is
6:59:59
After Increment
7:0:0
After Decrement//decrement the updated value
6:59:59

NOTE: Use the 24 hour time format.

```
class T
    {
    int h,m,s;
    public:

T()
{
    cin>>h>>m>>s;
}
void show()
{
    cout<<endl;
    if(s>=60)
    {
        s=s-60;
        m++;
    }
    else
    {
        if(s<0)
        {
            m--;
            s=s+60;
        }
        if(m<0)
        {
            h--;
            m=m+60;
        }
    }

    if(m>=60)
    {
        m=m-60;
        h++;
    }
    cout<<h<<":"<<m<<":"<<s;
}
void operator ++()
{
    s++;
}
void operator --()
{
    s--;
}
};

int main() {}
```

Line: 30 Col: 1

LINK-2C++2018_Operator Over

LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/84smihl9qi7 60%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

Unary Op overloading for distance

Write a program to overload unary operators ++ and -- on a distance

Sample Input

5 200

Sample Output

Entered distance is
5 kms 200 mtrs
After Increment
6 kms 200 mtrs
After Decrement
5 kms 200 mtrs

We recommend you take a quick tour of our editor before you proceed. The timer will pause up to 90 seconds for the tour. Start tour

Draft saved 05:09 pm | Original code | C++

```
#include ⇔

using namespace std;
class dist
    {
    int kms,m;
    public:

dist()
{
    cin>>kms>>m;
}

void operator ++()
{
    kms++;
}
void operator --()
{
    kms--;
}
void show()
{
    cout<<endl;
    if(m>=1000)
    {    m=m-1000;
         kms++;
     }
    cout<<kms<<" kms "<<m<<" mtrs";
}
};

int main() {⇔}

```

Line: 30 Col: 1

Test against custom input | Run Code | Submit code & Continue

(You can submit any number of times)

Download sample test cases *The input/output files have Unix line endings. Do not use Notepad to edit them on windows.*

ENG INTL 5:09 PM 29-Aug-18

LINK-2C++2018_Operator Over

LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/ap6rl3pdgli 60%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

Addition of Two Arrays

Write a program to overload the increment and decrement operators using array class.

Sample Input

1 2 3 4 5
1 2 3 4 5

Sample output

2 4 6 8 10

We recommend you take a quick tour of our editor before you proceed. The timer will pause up to 90 seconds for the tour. Start tour

Original code | C++

```
#include ⇔

using namespace std;
class array1
    {
    int *arr;
    int size;
    public:

array1()
{
    arr=0;
    size=0;
}
array1(int r)
{
    size=r;
    arr=new int[size];

}
void set()
{
    for(int i=0;i<size;i++)
        cin>>arr[i];
}
array1 operator +(array1 q)
{
    array1 w(size);
    for(int i=0;i<size;i++)
        w.arr[i]=arr[i]+q.arr[i];
    return w;

}
void show()
{
    for(int i=0;i<size;i++)
        cout<<arr[i]<<" ";
}
};

int main() {⇔}
```

Line: 31 Col: 1

ENG INTL 5:09 PM 29-Aug-18

LINK-2C++2018_Operator Over

LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/e7plk5q4o8e 60%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

Unary Operator overloading

Write a program to apply overloading over unary operators (-, ++ and --) on a point

Sample Input

2 4

Sample Output

Entered point is
2X+4Y
After negation
-2X-4Y
After increment
3X+5Y
After decrement
1X+3Y

Explanation

Sample Input

Two numbers are given: first is the X value and second is the Y value of the point.

We recommend you take a quick tour of our editor before you proceed. The timer will pause up to 90 seconds for the tour. Start tour

Original code | C++

```
#include ↔

using namespace std;
class point
    {
    int x,y;
    public:

point()
{
    x=0;
    y=0;
}
void show()
{cout<<endl;
    if(y>=0)
    cout<<x<<"X+"<<y<<"Y";
    else
        cout<<x<<"X"<<y<<"Y";
}
void set()
{
    cin>>x>>y;
}
point operator -()
{
   point q;
    q.x=-x;
    q.y=-y;
    return q;

}
point operator --()
{
   point q;
    q.x=x--;
    q.y=y--;
    return q;

}
point operator ++()
{
   point q;
    q.x=x++;
    q.y=y++;
    return q;

}
```

ENG INTL 5:10 PM 29-Aug-18

LINK-2C++2018_Operator Over

LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/e7plk5q4o8e 60%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

Unary Operator overloading

Write a program to apply overloading over unary operators (-, ++ and --) on a point

Sample Input

2 4

Sample Output

Entered point is
2X+4Y
After negation
-2X-4Y
After increment
3X+5Y
After decrement
1X+3Y

Explanation

Sample Input

Two numbers are given: first is the X value and second is the Y value of the point.

```
using namespace std;
class point
    {
    int x,y;
    public:

point()
{
    x=0;
    y=0;
}
void show()
{cout<<endl;
    if(y>=0)
    cout<<x<<"X+"<<y<<"Y";
    else
        cout<<x<<"X"<<y<<"Y";
}
void set()
{
    cin>>x>>y;
}
point operator -()
{
   point q;
    q.x=-x;
    q.y=-y;
    return q;

}
point operator --()
{
   point q;
    q.x=x--;
    q.y=y--;
    return q;

}
point operator ++()
{
   point q;
    q.x=x++;
    q.y=y++;
    return q;

}
};

int main() {}
```

Line: 30 Col: 1

ENG INTL 5:10 PM 29-Aug-18

LINK-2C++2018_Operator Over | LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/5a3c9a20e4n 50%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

SORTING ALL DETAILS

An Accountant have list of N customer stored as private data that include account id and amount. He wants an application to sort the record according to any factor that may be account number or amount (i or a respectively) .Write a c++ program to help him.

Sample Input:

i 4 //i is a choice to sort data on the bases of account id and N=4 is total number of records
4 900 //read the account id and amount, N=4 times
3 800
2 1000
1 900

Sample Output:

1 900
2 1000
3 800
4 900

Note: If number of records are out of range then output should be "RECORD OUT OF RANGE" and in case of wrong choice output should be "WRONG CHOICE".

Constraint:

Two Choices i and a
0<n<=30

```
        }
};

void sort1::show()
{
    for(int i=0;i<n;i++)
        cout<<data[i][0]<<" "<<data[i][1]<<endl;
}
void ssort(sort1 & sn)
{int t,q;
 if(sn.n>0 && sn.n<=30)
 {
 if(sn.choice=='i')
 {
    for(int i=0;i<sn.n;i++)
    {
        for(int j=i+1;j<sn.n;j++)
        {
            if(sn.data[i][0]>sn.data[j][0])
            {
                t=sn.data[i][0];
                sn.data[i][0]=sn.data[j][0];
                sn.data[j][0]=t;


                  q=sn.data[i][1];
                sn.data[i][1]=sn.data[j][1];
                sn.data[j][1]=q;

            }
        }
    }

 }
 else if(sn.choice=='a')
 {
     for(int i=0;i<sn.n;i++)
    {
        for(int j=i+1;j<sn.n;j++)
        {
            if(sn.data[i][1]>sn.data[j][1])
            {
                t=sn.data[i][1];
                sn.data[i][1]=sn.data[j][1];
                sn.data[j][1]=t;



                q=sn.data[i][0];
                sn.data[i][0]=sn.data[j][0];
                sn.data[j][0]=q;

            }
        }
    }
 }
  else
      cout<<"WRONG CHOICE";
 }
 else
     cout<<"RECORD OUT OF RANGE";
}


int main()
{
```

ENG INTL 5:13 PM 29-Aug-18

SALARY

Pravindra had borrowed some money as loan from Pavneet and Kishore. They are working in the same company. The salary they are getting is not fixed. They are getting incentives, based on the targets completed, in a month. Pravindra had submitted a request in a bank to auto deduct some amount from his salary. He requested to transact Rs 500 to Pavneet's and Rs. 750 to Kishore's account every month. Print the effective salary for each person by completing the following stub.

Sample Test case Input 1:

68611 //salary of Pravindra
90011 //salary of Pavneet
92578 //salary of Kishore

Sample Test case Output 1:

67361 //final salary of Pravindra
90511 //final salary of Pavneet
93328 //final salary of Kishore

Original code | C++

```
#include ⇔

using namespace std;
class money
{
    int sal;
    public:
    money()
    {
        sal=0;
    }
    void fix()
    {
        cin>>sal;
    }
    void fund_trans(money a,money b)
    {
        a.sal=a.sal+500;
        b.sal=b.sal+750;
        sal=sal-1250;
        cout<<sal<<endl<<a.sal<<endl<<b.sal;
    }
    void show_bal()
    {

    }
};

int main()
{
money pravindra;
money pavneet;
money kishore;
pravindra.fix();//pravindra's salary
pavneet.fix();//pavneet's salary
kishore.fix();//kishore's salary
pravindra.fund_trans(pavneet,kishore);
pravindra.show_bal();
```

VALID NAME PROBLEM

In a student class, name is a private member. Create a C++ code to check whether the name is valid or not.

A name is considered as invalid if it contains special characters such as: @, #, !, $, %, ^, &, *, ~, etc

Sample Input:

RAJ

Sample Output:

RAJ IS VALID

Hint: Special characters and digit are not allowed in name.

```
    char pname[10];
    public:
    void getname();
    void check_name();
};

void Name::getname()
{
    cin.getline(pname,10);
}
void Name::check_name()
{
    int r,flag=0;
    r=strlen(pname);
    for(int i=0;i<r;i++)
    {
        if((pname[i]>=65 && pname[i]<=90) ||(pname[i]>=97 && pname[i]<=122) || pname[i]==' ')
        { flag=0;

        }
           else
           {
           flag=1;
           break;
           }

    }
    if(flag==1)
        cout<<pname<<" IS NOT VALID";
    else
        cout<<pname<<" IS VALID";
}


int main()
    {
    Name n;
    n.getname();
    n.check_name();
    return 0;
}
```

Line: 33 Col: 1

Test against custom input

Run Code | Submit code & Continue

LINK-2C++2018_Operator Over

LINK-2C++2018_Operator Over

https://www.hackerrank.com/tests/86ef5aejh4t/questions/cj2frp6rtsg 70%

You must log in to this network before you can access the Internet. Open Network Login Page

LINK-2C++2018_Operator Overloading and Type Conversion | 28d 19h to test end | 28/37 Attempted | Kashish Chaudhary

SWAP NUMBERS

Shekhar wants to swap two objects, one each of class ONE and of class TWO. Both the classes have two private integer data members.

Input:

10 20

30 40

output:

30 40

10 20

```
using namespace std;
class two;
class one
{
    int a,b;
    public:
    void input()
    {
        cin>>a>>b;
    }
    void interchange(two q);
    void display()
    {

    }
};
class two
{
    int x,y;
    public:
    void input1()
    {
        cin>>x>>y;
    }
   // void interchange
    friend void one::interchange(two q);
       void display1()
    {

    }

};
void one::interchange(two q)
    {
        int e,r;
        e=a;
        a=q.x;
        q.x=e;
   //  cout<<q.y<<" "<<b<<endl;
        r=b;
        b=q.y;
        q.y=r;

        cout<<a<<" "<<b;
        cout<<endl<<q.x<<" "<<q.y;
    }
```

ENG INTL 5:13 PM 29-Aug-18

DISTANCES

Create two classes DM and DB which stores the value of distances.
DM stores distance in **meters** and **DB** stores distance in **feet**.
Write a program that can read values for the class objects and add
one object of DM with another object of DB.
Use a **friend function** to add the meters and feets.
Output should be in meters. (1 feet= 0.305 meters)

Sample Input:

2 //distance in meters
2 //distance in feets

Sample Output:

2.61 //addition of the distance in meters

Original code | C++

```
#include ⇔

using namespace std;
class DB;
class DM
{
    float met;
    public:
    void getdata()
    {
        cin>>met;
    }
    friend DM add(DM a,DB b);
       void putdata()
    {
        cout<<met;
    }
};
class DB
{
   float feet;
    public:
    void getdata()
    {
    cin>>feet;
    }
     friend DM add(DM a,DB b);
};



DM add(DM a,DB b)
{
    a.met=(b.feet*.305)+a.met;
    return a;
}

int main()
{
    DM p,q;
    DB r;
    p.getdata();
    r.getdata();
```

DISTANCES

Create two classes DM and DB which stores the value of distances.
DM stores distance in **meters** and **DB** stores distance in **feet**.
Write a program that can read values for the class objects and add
one object of DM with another object of DB.
Use a **friend function** to add the meters and feets.
Output should be in meters. (1 feet= 0.305 meters)

Sample Input:

2 //distance in meters
2 //distance in feets

Sample Output:

2.61 //addition of the distance in meters

Original code | C++

```
#include ⇔

using namespace std;
class DB;
class DM
{
    float met;
    public:
    void getdata()
    {
        cin>>met;
    }
    friend DM add(DM a,DB b);
       void putdata()
    {
        cout<<met;
    }
};
class DB
{
   float feet;
    public:
    void getdata()
    {
    cin>>feet;
    }
     friend DM add(DM a,DB b);
};



DM add(DM a,DB b)
{
    a.met=(b.feet*.305)+a.met;
    return a;
}

int main()
{
    DM p,q;
    DB r;
    p.getdata();
    r.getdata();
```