**Operator Overloading:**

1. **Program to create class space which stores the three variable .overload the –(Unary Minus) operator using friend function so that the value of variable can interchange.(Hint : x=-x)**

**#include<iostream.h>**

**class space**

**{**

**int x;**

**int y;**

**int z;**

**public:**

**void getdata(int a, int b, int c);**

**void display(void);**

**friend void operator-(space &);**

**};**

**void space :: getdata(int a, int b, int c)**

**{**

**x = a;**

**y = b;**

**z = c;**

**}**

**void space :: display(void)**

**{**

**cout << x << " ";**

**cout << y << " ";**

**cout << z << "\n";**

**}**

**void operator -(space &s)**

**{**

**s.x = -s.x;**

**s.y = -s.y;**

**s.z = -s.z;**

**}**

**Void main()**

**{ space s;**

**s.getdata(10,-20,30);**

**cout << "S : ";**

**s.display();**

**-s;**

**cout << "S : ";**

**s.display();**

**}**

**2. Program to create class space which stores the three variable .overload the –(Unary Minus) operator using Member function so that the value of variable can interchange.(Hint : x=-x)**

**#include<iostream.h>**

**class space**

**{**

**int x;**

**int y;**

**int z;**

**public:**

**void getdata(int a, int b, int c);**

**void display(void);**

**//friend void operator-(space &);**

**Void oprator –();**

**};**

**void space :: getdata(int a, int b, int c)**

**{**

**x = a;**

**y = b;**

**z = c;**

**}**

**void space :: display(void)**

**{**

**cout << x << " ";**

**cout << y << " ";**

**cout << z << "\n";**

**}**

**Void space:: operator –()**

**{**

**x = -x;**

**y = -y;**

**z = -z;**

**}**

**Void main()**

**{ space s;**

**s.getdata(10,-20,30);**

**cout << "S : ";**

**s.display();**

**-s;**

**cout << "S : ";**

**s.display();**

**}**

**3.Program to create a complex class that stores the real & imaginary value of two variable.overload the +(Binary operator) so that the user can add the two variable & display in third variable.**

**#include<iostream.h>**

**#include<conio.h>**

**class complex**

**{**

**float x, y;**

**public:**

**complex() { }**

**complex(float real, float imag){ x=real; y=imag; }**

**// friend complex sum(complex, complex);**

**void operator+(complex);**

**void display(void);**

**};**

**void complex :: operator+(complex c)**

**{**

**x = x + c.x;**

**y = y + c.y;**

**}**

**void complex :: display(void)**

**{**

**cout << x << " + j" << y << endl;**

**}**

**int main()**

**{**

**clrscr();**

**complex C1, C2, C3;**

**C1 = complex(2.5,3.5);**

**C2 = complex(1.6,2.7);**

**cout << endl;**

**cout << "C1 = "; C1.display();**

**cout << "C2 = "; C2.display();**

**C1 + C2;**

**cout << "C3 = "; C1.display();**

**getch();**

**return 0;**

**}**

**4. Program to create a complex class that stores the real & imaginary value of two variable.overload the +(Binary operator) using friend function so that the user can add the two variable & display in third variable.**

**#include<iostream.h>**

**class complex**

**{**

**float x, y;**

**public:**

**complex() { }**

**complex(float real, float imag){ x=real; y=imag; }**

**friend complex operator+(complex, complex);**

**void display(void);**

**};**

**complex operator+(complex c1, complex c2)**

**{**

**complex temp;**

**temp.x = c1.x + c2.x;**

**temp.y = c1.y + c2.y;**

**return(temp);**

**}**

**void complex :: display(void)**

**{**

**cout << x << " + j" << y << endl;**

**}**

**int main()**

**{**

**complex C1, C2, C3;**

**C1 = complex(2.5,3.5);**

**C2 = complex(1.6,2.7);**

**C3 = C1 + C2;**

**cout << endl;**

**cout << "C1 = "; C1.display();**

**cout << "C2 = "; C2.display();**

**cout << "C3 = "; C3.display();**

**return 0;**

**}**

**5. Write a c++ Program to demonstrate operator overloading of ++ Operator.**

**#include<iostream.h>**

**#include<conio.h>**

**class increase**

**{**

**private:**

**int data;**

**public:**

**increase()**

**{**

**data=0;**

**}**

**display()**

**{**

**cout<<data<<endl;**

**}**

**void operator ++()**

**{**

**data++;**

**}**

**};**

**void main()**

**{**

**clrscr();**

**increase i;**

**i.display();**

**i++;**

**i.display();**

**++i;**

**i.display();**

**getch();**

**}**

**6. Write a Program to concatenate two string objects using operator overloading.**

**#include<iostream.h>**

**#include<conio.h>**

**#include<string.h>**

**class string**

**{**

**private:**

**char str[80];**

**public:**

**string()**

**{**

**strcpy(str,"");**

**}**

**string(char s[80])**

**{**

**strcpy(str,s);**

**}**

**void display()**

**{**

**cout<<str<<endl;**

**}**

**string operator +(string s)**

**{**

**if(strlen(s.str)+strlen(str)<80)**

**{**

**string temp;**

**strcpy(temp.str,str);**

**strcat(temp.str,s.str);**

**return temp;**

**}**

**else**

**{**

**cout<<"Resultant string is too Large";**

**}**

**}**

**};**

**void main()**

**{**

**clrscr();**

**string s1("Good"),s2("Morning"),s3;**

**s3=s1+s2;**

**s3.display();**

**getch();**

**}**