**OOP Assignment 4**

**S.M.HassanAli(20K-1052)**

**1- Obj++**

#include<iostream>

using namespace std;

class Temp{

int data;

public:

Temp(int i):data(i){

}

show(){

cout<<data;

}

void operator ++(void){ //++t

data=data+3;

}

void operator ++(int){ //t++

data=data-5;

}

};

int main(){

Temp t(10);

++t; //first 10+3

t++; //then 13-5

t.show();

}

**2- Obj + 20**

#include<iostream>

using namespace std;

class Student{

private:

int marks;

public:

Student(int i):marks(i){

}

void operator+(int i){

marks = marks + i;

}

show(){

cout<<"The marks after increment are: "<<marks<<endl;

}

};

int main(){

Student a1(20);

a1 + 20;

a1.show();

}

**3- obj3 =obj1\*obj2**

#include<iostream>

using namespace std;

class Student{

private:

int marks;

public:

Student(int i):marks(i){

}

Student operator\*(Student s){

return(marks\*s.marks);

}

show(){

cout<<"The marks after multiplication are: "<<marks<<endl;

}

};

int main(){

Student a1(20);

Student a2(30);

Student a3=a1\*a2;

a3.show();

}

**4- if ( obj1< obj2)**

#include<iostream>

using namespace std;

class Student{

private:

int marks;

public:

Student(int i):marks(i){

}

bool operator<(Student s){

if(marks < s.marks){

return true;

}

else{

return false;

}

}

show(){

cout<<"The marks are: "<<marks<<endl;

}

};

int main(){

Student a1(20);

Student a2(30);

if(a1<a2){

cout<<"S2 is greater"<<endl;

}

else{

cout<<"S1 is greater"<<endl;

}

}

**5- if (obj1 == Obj2)**

#include<iostream>

using namespace std;

class Student{

private:

int marks;

public:

Student(int i):marks(i){

}

bool operator==(Student s){

if(marks == s.marks){

return true;

}

else{

return false;

}

}

show(){

cout<<"The marks are equal: "<<marks<<endl;

}

};

int main(){

Student a1(30);

Student a2(30);

if(a1==a2){

cout<<a1.show()<<endl;

}

else{

cout<<"Not equal"<<endl;

}

}

**6- if (( Obj1\*Obj2) > (Obj2/Obj3))**

#include<iostream>

using namespace std;

class Student{

private:

int marks;

public:

friend Student operator\*(Student,Student);

friend Student operator/(Student,Student);

friend bool operator>(Student,Student);

Student(int i):marks(i){

}

show(){

cout<<" a1\*a2 marks are: "<<marks<<endl;

}

showw(){

cout<<" a2/a3 marks are: "<<marks<<endl;

}

};

Student operator\*(Student a1,Student a2){

return Student(a1.marks\*a2.marks);

}

Student operator/(Student a2,Student a3){

return Student(a2.marks/a3.marks);

}

bool operator >(Student a4, Student a5){

if(a4.marks > a5.marks){

return true;

}

else{

return false;

}

}

int main(){

Student a1(2);

Student a2(20);

Student a3(5);

Student a4=a1\*a2;

a4.show();

Student a5=a2/a3;

a5.showw();

if(a4 > a5){

cout<<" (a1\*a2) > (a2/a3) is TRUE ";

}

else{

cout<<" (a1\*a2) > (a2/a3) is False ";

}

}