Here is other's 28 code of chapter 6 and chapter 7. Link->https://github.com/habib-e/cpp-code

1.

```cpp
#include<bits/stdc++.h>
using namespace std;

class  vehicle
{
    int num_wheels;
    int range;
public:
    vehicle(int m,int n){num_wheels=m;range=n;}
    void show1()
    {
        cout<<"num of wheel : "<<num_wheels<<endl;
        cout<<"range : "<<range<<endl;
    }
};
class car:public vehicle
{
    int passenger;
public:
    car(int x,int y,int z):vehicle(y,z)
    {
        passenger=x;
    }
    void show()
    {
        cout<<"Passenger : "<<passenger<<endl;
        show1();
    }
};
class truck:public vehicle
{
    int loadlimit;
```

```cpp
public:
    truck(int x,int y,int z):vehicle(y,z)
    {
        loadlimit=x;
    }
    void show()
    {
        cout<<"loadlimit : "<<loadlimit<<endl;
        show1();
    }
};
int main()
{
    car ob1(5,4,500);
    truck ob(3000,12,1200);
    ob1.show();
    ob.show();
    return 0;
}
```
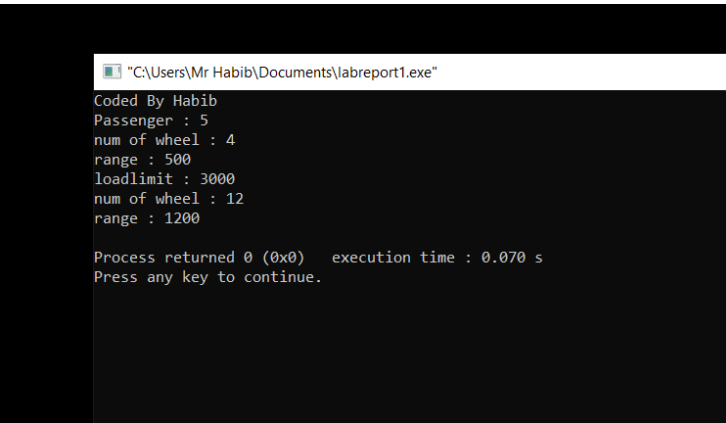


```
"C:\Users\Mr Habib\Documents\labreport1.exe"
Coded By Habib
Passenger : 5
num of wheel : 4
range : 500
loadlimit : 3000
num of wheel : 12
range : 1200

Process returned 0 (0x0)    execution time : 0.070 s
Press any key to continue.
```

2.

```cpp
#include<bits/stdc++.h>
#include<iostream>
using namespace std;
class Circle
{
```

```cpp
    int hr, min, sec;
public:
    Circle()
    {
        hr=0, min=0;
        sec=0;
    }
    Circle(int h, int m, int s)
    {
        hr=h, min=m;
        sec=s;
    }

    friend bool operator<(Circle &t1, Circle &t2);
    friend bool operator<=(Circle &t3, Circle &t4);
    friend bool operator!=(Circle &t5, Circle &t6);
    friend bool operator==(Circle &t7, Circle &t8);
    friend bool operator>(Circle &t9, Circle &t10);
};

bool operator< (Circle &t1, Circle &t2)
{
    return ( t1.hr < t2.hr && t1.min < t2.min && t1.sec < t2.sec );
}
bool operator<= (Circle &t3, Circle &t4)
{
    return ( t3.hr <= t4.hr && t3.min <= t4.min && t3.sec <= t4.sec );
}

bool operator!= (Circle &t5, Circle &t6)
{
    return ( t5.hr != t6.hr && t5.min != t6.min && t5.sec != t6.sec );
}
```

```cpp
bool operator== (Circle &t7, Circle &t8)
{
    return ( t7.hr == t8.hr && t7.min == t8.min && t7.sec == t8.sec );
}


bool operator> (Circle &t9, Circle &t10)
{
    return ( t9.hr > t10.hr && t9.min > t10.min && t9.sec > t10.sec );
}
int main()
{
    Circle t1(3,15,45);
    Circle t2(4,15,45);
    if(t1 < t2)
        cout << "t1 is greater than t2"<<endl;
    else
        cout << "t1 is less than t2"<<endl;
    Circle t3(3,15,45);
    Circle t4(4,15,45);
    if(t3 <= t4)
        cout << "t3 is less than or equal t4"<<endl;
    else
        cout << "t3 is greater than or equal t4"<<endl;
    Circle t5(3,15,45);
    Circle t6(4,15,45);
    if(t5 != t6)
        cout << "t5 is not equal to t6"<<endl;
    else
        cout << "t5 is equal to t6"<<endl;
    Circle t7(3,15,45);
    Circle t8(4,15,45);
    if(t7 == t8)
```

```cpp
        cout << "t7 is equal to t8"<<endl;
    else
        cout << "t7 is not equal to t8"<<endl;
    Circle t9(3,15,45);
    Circle t10(4,15,45);
    if(t9 > t10)
        cout << "t9 is greater than t10"<<endl;
    else
        cout << "t9 is not greater than t10"<<endl;
    return 0;
}
```
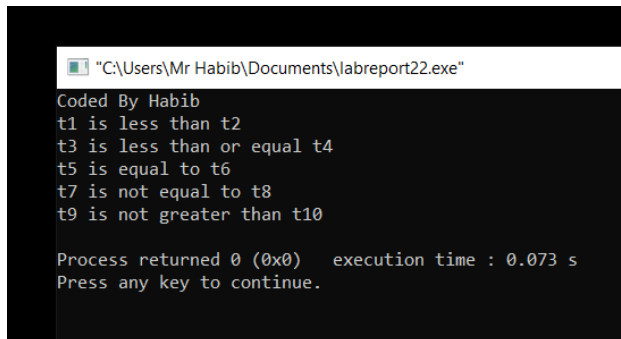


```
"C:\Users\Mr Habib\Documents\labreport22.exe"
Coded By Habib
t1 is less than t2
t3 is less than or equal t4
t5 is equal to t6
t7 is not equal to t8
t9 is not greater than t10

Process returned 0 (0x0)   execution time : 0.073 s
Press any key to continue.
```

3.

```cpp
#include<iostream>
using namespace std;
class university
{
public:
    int num_of_dept;
    int rank;
    university(int a,int b)
    {
        num_of_dept=a;
        rank=b;
    }
    virtual  void show()
    {
```

```cpp
        cout<<num_of_dept<< endl;

        cout<<rank<<endl;

    }

};

class department: public university

{

public:

    string name;

    int student_num;

    department(string x,int y,int m,int n):university(m,n)

    {

       name=x;

        student_num=y;

    }

    void show()

    {

        cout<<name<<" ";

        cout<<student_num<<" ";

        cout<<num_of_dept<<" ";

        cout<<rank<<" ";

    }

};

int main()

{

    department ob("habib", 20,7,14);

    ob.show();

    return 0;

}
```



```
 ■ "C:\Users\Mr Habib\Documents\labrepnew1.exe"
habib 20 7 14
Process returned 0 (0x0)    execution time : 0.076 s
Press any key to continue.
```

4.

```cpp
#include<iostream>
using namespace std;
class triangle
{
public:
    double side1,side2,side3;
    string color;
    double A,P;
    trianle()
    {
        side1=1.0;
        side2=1.0;
        side3=1.0;
    }
    triangle(double a, double b,double c)
    {
        side1=a;
        side2=b;
        side3=c;
    }
    accessor(double x, double y)
    {
        A=x;
        P=y;

    }

    double getArea()
    {
        A =0.5*side1*side2;
        return A;
```

```cpp
        }

    double getPerimeter()

    {

        P=side1+side2+side3;

        return P;

    }

    void show()

    {

        color="Black";

        cout<<color<<endl;

    }

};


int main()

{

    cout<<"coded by habib"<<endl;

    triangle ob(8,6,9);

    double ans=ob.getArea();

    if(ans>0)

        cout<<"1"<<endl;

    else

        cout<<"0"<<endl;

    double ans2=ob.getPerimeter();

    cout<<ans2<<endl;

    ob.show();

    return 0;

}
```
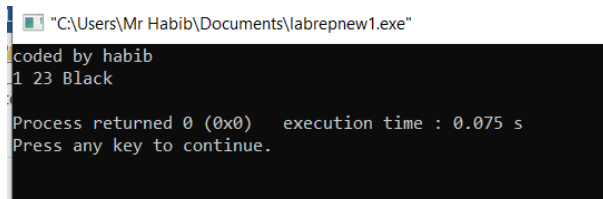


```
 "C:\Users\Mr Habib\Documents\labrepnew1.exe"
coded by habib
1 23 Black

Process returned 0 (0x0)   execution time : 0.075 s
Press any key to continue.
```

5.

```cpp
#include<iostream>

using namespace std;


class division
{
public:
    int num_cities;

    string most_populous_city;

    division(int a, string b)

    {

        num_cities=a;

        most_populous_city=b;

    }

    virtual void show()

    {

        cout<<num_cities<<endl;

        cout<<most_populous_city<<endl;

    }
};
class city:public division
{
public:
    string name;

    int population;

    city(string x, int y,int n,string m):division(n,m)

    {

        name=x;

        population=y;

    }

    void show()

    {

        cout<<name<<" ";

        cout<<population<<" ";
```

```cpp
        cout<<num_cities<<" ";

        cout<<most_populous_city<<" ";

    }

};

int main()

{

    cout<<"coded by habib"<<endl;

    city ob("dhaka", 10982, 8,"mirpur");

    ob.show();

}
```



```
"C:\Users\Mr Habib\Documents\labrepnew1.exe"
coded by habib
dhaka 10982 8 mirpur
Process returned 0 (0x0)   execution time : 0.073 s
Press any key to continue.
```

6.

```cpp
#include<bits/stdc++.h>

using namespace std;

long long ll;

class person

{

public:

    string name;

    long long n,w_hour;

    person()

    {

        cin>>name>>n>>w_hour;

    }

    void display(){

    cout<<name<<" "<<n<<" "<<w_hour<<endl;

    }

};

class academic:virtual public person
```

```cpp
{
    public:


};
class non_academic: virtual public person
{
    public:




};
class supporting_stuf:public academic,public non_academic
{
    public:


};
int main()
{
    supporting_stuf ob1;

    ob1.display();

    return 0;
}
```



```
habib 01859 8
habib 1859 8

Process returned 0 (0x0)    execution time : 28.913 s
Press any key to continue.
```

7.

```cpp
# include <iostream >

using namespace std;

class coord
{
    int x, y;
public :
    coord ()
```

```cpp
    {
       x=0;
       y=0;
    };
    coord (int i, int j)
    {
       x=i;
       y=j;
    }
    void get_xy (int &i, int &j)
    {
       i=x;
       j=y;
    }
    coord operator -( coord ob2);
    coord operator -();
};



coord coord :: operator -( coord ob2)
{
   coord temp ;
   temp .x = x - ob2 .x;
   temp .y = y - ob2 .y;
   return temp ;
}


coord coord :: operator -()
{
   x = -x;
   y = -y;
   return * this ;
}
```

```cpp
int main ()

{

    cout<<"coded by habib"<<endl;

    coord o1 (10, 10), o2 (5, 7);

    int x, y;

    o1 = o1 - o2;

    o1. get_xy (x, y);

    cout << "(o1 -o2) X: " << x << ", Y: " << y << "\n";

    o1 = -o1;

    o1. get_xy (x, y);

    cout << "(-o1) X: " << x << ", Y: " << y << "\n";

    return 0;

}
```



```
"C:\Users\Mr Habib\Documents\labrepnew1.exe"
coded by habib
(o1 -o2) X: 5, Y: 3
(-o1) X: -5, Y: -3

Process returned 0 (0x0)   execution time : 0.072 s
Press any key to continue.
```

8.

```cpp
# include <iostream >

using namespace std;

class coord

{

    int x, y;

public :

    coord ()

    {

        x=0;

        y=0;

    };

    coord (int i, int j)

    {

        x=i;
```

```cpp
        y=j;

    }

    void get_xy (int &i, int &j)

    {

        i=x;

        j=y;

    }

    coord operator ++() ;

};

coord coord :: operator ++()

{

    x++;

    y++;

    return * this ;

}

int main ()

{

    cout<<"coded by Habib"<<endl;

    coord o1 (10, 10);

    int x, y;

    ++ o1;

    o1.get_xy(x,y);

    cout << "(++ o1) X: " << x << ", Y: " << y << "\n";

    return 0;

}
```



```
"C:\Users\Mr Habib\Documents\labrepnew1.exe"

coded by Habib
(++ o1) X: 11, Y: 11

Process returned 0 (0x0)    execution time : 0.069 s
Press any key to continue.
```

9.

```cpp
# include <iostream >

using namespace std;

class coord
```

```cpp
{
    int x, y;
public :
    coord ()
    {
        x=0;
        y=0;
    };
    coord (int i, int j)
    {
        x=i;
        y=j;
    }
    void get_xy (int &i, int &j)
    {
        i=x;
        j=y;
    }
    int operator ==( coord ob2);
    int operator &&( coord ob2);
};


int coord :: operator ==( coord ob2)
{
    return x== ob2.x && y== ob2.y;
}


int coord :: operator &&( coord ob2)
{
    return (x && ob2.x) && (y && ob2.y);
}
int main ()
{
```

```cpp
    cout<<"coded by habib"<<endl;

    coord o1 (5, 5), o2 (4, 3), o3 (9, 9), o4 (0, 0);

  if(o1 == o2)

     cout << "o1 same as o2\n";

   else

      cout << "o1 and o2 difference \n";

  if(o1 == o3)

     cout << "o1 same as o3\n";

   else

      cout << "o1 and o3 difference\n";

  if(o1 && o2)

     cout << "o1 && o2 is true \n";

   else

      cout << "o1 && o2 is false \n";

  if(o1 && o4)

     cout << "o1 && o4 is true \n";

   else

      cout << "o1 && o4 is false \n";

    return 0;

}
```

```
■ "C:\Users\Mr Habib\Documents\labrepnew1.exe"
coded by habib
o1 and o2 difference
o1 and o3 difference
o1 && o2 is true
o1 && o4 is false

Process returned 0 (0x0)    execution time : 0.069 s
Press any key to continue.
```

10.

```cpp
# include <iostream >

using namespace std;

class coord

{

   int x, y;

public :
```

```cpp
    coord ()

    {

        x=0;

        y=0;

    };

    coord (int i, int j)

    {

        x=i;

        y=j;

    }

    void get_xy (int &i, int &j)

    {

        i=x;

        j=y;

    }

    coord operator +( coord ob2);

    coord operator +( int i);

};


coord coord :: operator +( coord ob2)

{

    coord temp ;

    temp .x = x + ob2 .x;

    temp .y = y + ob2 .y;

    return temp ;

}

coord coord :: operator +( int i)

{

    coord temp ;

    temp .x = x + i;

    temp .y = y + i;

    return temp ;

}
```

```cpp
int main ()

{

    cout<<"coded by habib"<<endl;

    coord o1 (10, 10), o2 (5, 3), o3;

    int x, y;

    o3 = o1 + o2;

    o3. get_xy (x, y);

    cout << "(o1+o2) X: " << x << ", Y: " << y << "\n";

    o3 = o1 + 100;

    o3. get_xy (x, y);

    cout << "(o1 +100) X: " << x << ", Y: " << y << "\n";

    return 0;

}
```

```
■ "C:\Users\Mr Habib\Documents\labrepnew1.exe"
coded by habib
(o1+o2) X: 15, Y: 13
(o1 +100) X: 110, Y: 110

Process returned 0 (0x0)   execution time : 0.090 s
Press any key to continue.
```

11.

```cpp
#include<iostream >

using namespace std;

class coord

{

    int x, y;

public :

    coord ()

    {

        x=0;

        y=0;

    };

    coord (int i, int j)

    {

        x=i;
```

```cpp
        y=j;
    }
    void get_xy (int &i, int &j)
    {
        i=x;
        j=y;
    }
    coord operator +( coord ob2);
    coord operator -( coord ob2);
    coord operator =( coord ob2);
};
coord coord :: operator +( coord ob2)
{
    coord temp ;
    temp .x = x + ob2 .x;
    temp .y = y + ob2 .y;
    return temp ;
}
coord coord :: operator -( coord ob2)
{
    coord temp ;
    temp .x = x - ob2 .x;
    temp .y = y - ob2 .y;
    return temp ;
}
coord coord :: operator =( coord ob2)
{
    x = ob2.x;
    y = ob2.y;
    return * this ;
}
int main ()
{
```

```cpp
    cout<<"Coded by habib"<<endl;

    coord o1 (5, 5), o2 (4, 3), o3;

    int x, y;

    o3 = o1 + o2;

    o3. get_xy (x, y);

    cout << "(o1+o2) X: " << x << ", Y: " << y << "\n";

    o3 = o1 - o2;

    o3. get_xy (x, y);

    cout << "(o1 -o2) X: " << x << ", Y: " << y << "\n";

    o3 = o1;

    o3. get_xy (x, y);

    cout << "(o3=o1) X: " << x << ", Y: " << y << "\n";

    return 0;

}
```

```
■ "C:\Users\Mr Habib\Documents\labrepnew1.exe"

Coded by habib
(o1+o2) X: 9, Y: 8
(o1 -o2) X: 1, Y: 2
(o3=o1) X: 5, Y: 5

Process returned 0 (0x0)    execution time : 0.069 s
Press any key to continue.
```

12.

```cpp
#include<bits/stdc++.h>

using namespace std;

class intake41

{

    int nofcouse;

    int intake;

    string s;

public:

    double tution_fee;

    intake41()
```

```cpp
    {
        nofcouse=5;

        intake=0;

        tution_fee=0.0;

        s="second";

    }

    intake41(int r,double t)

    {

        intake =r;

        tution_fee=t;

    }

    void show()

    {

        cout<<"intake : "<<intake<<endl;

        cout<<"section : "<<s<<endl;

    }

    int caltuition()

    {

        return tution_fee*(nofcouse*1000);

    }

};

int main()

{

    cout<<"coded by habib"<<endl;

    int r;

    double f;

    intake41 ob(2,19.0);

    ob.show();

    cout<<ob.caltuition()<<endl;

    return 0;

}
```

```
coded by habib
intake : 2
section :
-1822618624

Process returned 0 (0x0)    execution time : 0.077 s
Press any key to continue.
```