Task # 01

```cpp
#include <iostream>
using namespace std;
class Rectangle
{
private:
    int width;
    int length;
    int area;

public:
    Rectangle() : width(0), length(0), area(0) {}
    Rectangle(int a, int b) : width(a), length(b), area(a * b) {}
    Rectangle(Rectangle &c) : width(c.width), length(c.length), area(c.area)
{}
    void display()
    {
        cout << "Area of Rectangle is " << area << endl;
    }
    void setvalue(int a, int b)
    {
        width = a;
        length = b;
        area = a * b;
    }
    Rectangle operator+(const Rectangle &c)
    {
        Rectangle temp;
        temp.width = width + c.width;
        temp.length = length + c.length;
        temp.area = area + c.area;
        return temp;
    }
};
int main()
{
    Rectangle c1(2, 5);
    Rectangle c2(4, 6);
    c1.display();
    c2.display();
    Rectangle c3 = c1 + c2;
    c3.display();
    return 0;
}
```

Task # 02

```cpp
#include <iostream>
using namespace std;
class Distance
{
private:
    int feet;
    float inch;

public:
    Distance() : feet(0), inch(0) {}
    Distance(int a, float b) : feet(a), inch(b) {}
    Distance(Distance &c) : feet(c.feet), inch(c.inch) {}
    void display()
    {
        cout << "Distance is " << feet << "\'" << inch << "\"" << endl;
    }
    void setvalue()
    {
        int a;
        float b;
        cout << "Enter feet: ";
        cin >> a;
        cout << "Enter inches: ";
        cin >> b;
        feet = a;
        inch = b;
    }
    void operator+=(const Distance &c)
    {
        feet += c.feet;
        inch += c.inch;
        if (inch > 12)
        {
            inch -= 12;
            feet++;
        }
    }
};
int main()
{
    Distance c1(8, 5.9);
    Distance c2;
    c2.setvalue();
    c1.display();
    c2.display();
    c2 += c1;
    cout << "Added ";
```

```
    c2.display();
    return 0;
}
```

Task # 03

```cpp
#include <iostream>
#include <string>
using namespace std;
class remarks
{
private:
    string remark;

public:
    remarks() : remark(" ") {}
    remarks(const string &example) : remark(example) {}
    void display()
    {
        cout << remark;
    }
    void setter(string h)
    {
        remark = h;
    }
    remarks operator+=(const remarks &ex)
    {
        return remarks(remark + ex.remark);
    }
};
int main()
{
    remarks c1;
    remarks c2("Need some improvement in Physics.");
    remarks finalremarks;
    c1.setter("Excellent in Mathematics.");
    cout << "First Remarks: ";
    c1.display();
    cout << endl
         << "Second Remarks: ";
    c2.display();
    finalremarks = c1 += c2;
    cout << endl
         << "Final Remarks: ";
    finalremarks.display();
    return 0;
}
```

Task # 04

```cpp
#include <iostream>
#include <string>
using namespace std;
class student
{
private:
    int marks[5];

public:
    student()
    {
        for (int i = 0; i < 5; i++)
            marks[i] = 0;
    }
    int &operator[](int index)
    {
        if (index >= 0 && index < 5)
            return marks[index];
        else
            cout << "Index out of boundary!";
    }
    void display()
    {
        int total = 0;
        for (int i = 0; i < 5; i++)
            total += marks[i];
        float avg = total / 5.00;
        cout << "Total marks: " << total << endl;
        cout << "Average marks: " << avg;
    }
};
int main()
{
    student s1;
    for (int i = 0; i < 5; i++)
    {
        cout << "Enter marks for subject" << i + 1 << ": ";
        cin >> s1[i];
    }
    s1.display();
    return 0;
}
```

Task # 05

```
#include <iostream>
#include <string>
using namespace std;
class YearTemperature
{
private:
    int temp[12];

public:
    YearTemperature()
    {
        for (int i = 0; i < 12; i++)
            temp[i] = 0;
    }
    int &operator[](int index)
    {
        if (index >= 0 && index < 12)
            return temp[index];
        else
            cout << "Index out of boundary!";
    }
    void display()
    {
        string months[12] = {"jan", "feb", "mar", "april", "may", "june",
"july", "aug", "sept", "oct", "nov", "dec"};
        for (int i = 0; i < 12; i++)
        {
            cout << months[i] << ":" << temp[i] << "\'C" << endl;
        }
    }
};
int main()
{
    YearTemperature y1;
    for (int i = 0; i < 12; i++)
    {
        cout << "Enter temperature for month " << i + 1 << ": ";
        cin >> y1[i];
    }
    cout << "All monthly temperatures: " << endl;
    y1.display();
    return 0;
}
```