

Programs:

1)

```
#include<iostream>

using namespace std;

class Box {

public:

    int l, b, h, vol;

    void get() {

        cout << "Enter the length breadth and height of the Box :";
        cin >> l >> b >> h;

    }

    void set() {

        cout << "Length :" << l << endl;
        cout << "Breadth :" << b << endl;
        cout << "Height :" << h << endl;

    }

    void calcVol() {

        vol = l*b*h;

        cout << "Volume :" << vol << endl;

    }

};

int main() {

    Box b1, b2;

    b1.get();
    b1.set();
    b1.calcVol();

}
```

Output:

```
> ./a.out
Enter the length breadth and height of the Box :20 10 5
Length :20
Breadth :10
Height :5
Volume :1000
```

2)

```
#include<iostream>

using namespace std;
```

```
class Employee {  
public:  
    char firstName[20], lastName[20];  
    float monthlySalary, yearlySalary;  
  
    void get() {  
        cout << "Enter First Name : ";  
        cin >> firstName;  
        cout << "Enter Last Name : ";  
        cin >> lastName;  
        cout << "Enter Monthly Salary : ";  
        cin >> monthlySalary;  
    }  
  
    void calcYearlySalary() {  
        yearlySalary = monthlySalary * 12;  
        cout << "Yearly Salary Calculated" << endl;  
    }  
  
    void display() {  
        cout << "Name : " << firstName << " " << lastName << endl;  
        cout << "Monthly Salary : " << monthlySalary << endl;  
        cout << "Yearly Salary : " << yearlySalary << endl;  
    }  
};  
  
int main() {  
    Employee e1, e2;  
    e1.get();  
    e1.calcYearlySalary();  
    e1.display();  
    cout << endl;  
    e2.get();  
    e2.calcYearlySalary();  
    e2.display();  
}
```

Output:

```
> ./a.out
Enter First Name : Robin
Enter Last Name : Singh
Enter Monthly Salary : 50000
Yearly Salary Calculated
Name : Robin Singh
Monthly Salary : 50000
Yearly Salary : 600000
```

3)

```
#include <iostream>
#include <string.h>
using namespace std;
class Book{
    int accNumber, year, cost;
    string bookName, publisherName, authorName;
public:
    void set(){
        cout << "Enter name of the book: ";
        cin >> bookName;
        cout << "Enter name of the author:" ;
        cin >> authorName;
        cout << "Enter publishers name:" ;
        cin >> publisherName;
        cout << "Enter the year of publication:" ;
        cin >> year;
        cout << "Enter accession number:" ;
        cin >> accNumber;
        cout << "Enter the cost:" ;
        cin >> cost;
        cout << "\n";
    }
    void get(){
        cout << "\nName of the author : " << authorName << endl;
        cout << "Year of publication : " << year << endl;
        cout << "Name of book : " << bookName << endl;
        cout << "Publishers name : " << publisherName << endl;
        cout << "Name of accession number : " << accNumber << endl;
    }
}
```

```

        cout << "Cost of book : " << cost << endl;
    }

friend void max(Book, Book, Book);

};

void max(Book a, Book b, Book c)
{
    if (a.cost > b.cost)
        if (a.cost > c.cost)
            cout << a.bookName << " is the most expensive book." << endl;
        else
            cout << c.bookName << " is the most expensive book." << endl;
    else if (b.cost > c.cost)
        cout << b.bookName << " is the most expensive book." << endl;
    else
        cout << c.bookName << " is the most expensive book." << endl;
}

int main()
{
    Book book1, book2, book3;

    cout << "\nEnter Details for Book 1" << endl;
    book1.set();

    cout << "\nEnter Details for Book 2" << endl;
    book2.set();

    cout << "\nEnter Details for Book 3" << endl;
    book3.set();

    book1.get();
    book2.get();
    book3.get();

    max(book1, book2, book3);

    return 0;
}

```

Output:

```
> ./a.out
```

```
Enter Details for Book 1
Enter name of the book:
Adventures
Enter name of the author:Sawyer
Enter publishers name:P1
Enter the year of publication:200
Enter accession number:2343
Enter the cost:5000
```

```
Enter Details for Book 2
Enter name of the book: Comedy
Enter name of the author:John
Enter publishers name:P2
Enter the year of publication:1990
Enter accession number:245423
Enter the cost:1000
```

```
Enter Details for Book 3
Enter name of the book: Utopia
Enter name of the author:James
Enter publishers name:P3
Enter the year of publication:2021
Enter accession number:2433
Enter the cost:50000
```

```
Name of the author : Sawyer
Year of publication : 200
Name of book : Adventures
Publishers name : P1
Name of accession number : 2343
Cost of book : 5000
```

```
Name of the author : John
Year of publication : 1990
Name of book : Comedy
Publishers name : P2
Name of accession number : 245423
Cost of book : 1000
```

```
Name of the author : James
Year of publication : 2021
Name of book : Utopia
Publishers name : P3
Name of accession number : 2433
Cost of book : 50000
Utopia is the most expensive book.
```

4)

```
#include<iostream>
using namespace std;
```

```
class Bill {  
public:  
    float customerNo, units, totalBill;  
    char customerName[20];  
  
    void get() {  
        cout << "Enter the Customer No. : ";  
        cin >> customerNo;  
        cout << "Enter the Customer Name : ";  
        cin >> customerName;  
        cout << "Enter the Units : ";  
        cin >> units;  
    }  
  
    void calcBill() {  
        if (units <= 100)  
            totalBill = units * 1.20;  
        else if (units <= 200)  
            totalBill = 100 * 1.20 + (units - 100) * 2;  
        else  
            totalBill = 100 * 1.20 + 100 * 2 + (units - 200) * 3;  
        cout << "Total Bill : " << totalBill;  
    }  
};  
  
int main() {  
    Bill b1, b2, b3, b4;  
    b1.get();  
    b1.calcBill();  
    cout << endl;  
    b2.get();  
    b2.calcBill();  
}
```

Output:

```
> ./a.out
Enter the Customer No. : 2342343
Enter the Customer Name : Robin
Enter the Units : 1000
Total Bill : 2720
Enter the Customer No. : 2132132
Enter the Customer Name : Test
Enter the Units : 30000
Total Bill : 89720#
```

5)

```
#include<iostream>

using namespace std;

class Time {
public:
    int min, hr;
    void get() {
        cout << "Enter the Hours and minutes : ";
        cin >> hr >> min;
    }
    void display() {
        cout << "Time is " << hr << ":" << min << endl;
    }
    void addTime(Time t1, Time t2) {
        min = t1.min + t2.min;
        hr = min / 60;
        min = min % 60;
        hr += t1.hr + t2.hr;
        display();
    }
};

int main() {
    Time t1, t2, t3;
    t1.get();
    t2.get();
    t3.addTime(t1, t2);
}
```

Output:

```
> ./a.out
Enter the Hours and minutes : 1 50
Enter the Hours and minutes : 5 59
Time is 7:49
```