

# Sample Program 12.1

---

## About Objects

**Problem statement.** Write a program to manage one time-of-day object.

**Solution.**

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

struct TimeOfDay
{
    int hour;
    int minute;
    int second;
};

TimeOfDay getTimeOfDay()
{
    TimeOfDay result;

    cout << "Enter the hour ";
    cin >> result.hour;
    cin.ignore(1000, 10);

    cout << "Enter the minute ";
    cin >> result.minute;
    cin.ignore(1000, 10);

    cout << "Enter the second ";
    cin >> result.second;
    cin.ignore(1000, 10);

    return result;
}

void outputTimeOfDay(TimeOfDay& t)
{
    cout.fill('0');
    cout << setw(2) << t.hour << ':'
        << setw(2) << t.minute << ':'
        << setw(2) << t.second << endl;
    cout.fill(' '); // set back to a space
}

int main()
{
    TimeOfDay a = getTimeOfDay();
    outputTimeOfDay(a);
}
```

**Problem statement.** Write a program to manage 5 time-of-day objects.

**Solution.**

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

struct TimeOfDay
{
    int hour;
    int minute;
    int second;
};

TimeOfDay getTimeOfDay()
{
    TimeOfDay result;

    cout << "Enter the hour ";
    cin >> result.hour;
    cin.ignore(1000, 10);

    cout << "Enter the minute ";
    cin >> result.minute;
    cin.ignore(1000, 10);

    cout << "Enter the second ";
    cin >> result.second;
    cin.ignore(1000, 10);

    return result;
}

void outputTimeOfDay(TimeOfDay& t)
{
    cout.fill('0');
    cout << setw(2) << t.hour << ':'
        << setw(2) << t.minute << ':'
        << setw(2) << t.second << endl;
    cout.fill(' '); // set back to a space
}

int main()
{
    TimeOfDay a[5];

    for (int i = 0; i < 5; i++)
        a[i] = getTimeOfDay();

    for (int i = 0; i < 5; i++)
        outputTimeOfDay(a[i]);
}
```

**Problem statement.** Write a program to manage 5 time-of-day objects.

**Solution.**

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

struct TimeOfDay
{
    int hour;
    int minute;
    int second;
};

TimeOfDay getTimeOfDay()
{
    TimeOfDay result;

    cout << "Enter the hour ";
    cin >> result.hour;
    cin.ignore(1000, 10);

    cout << "Enter the minute ";
    cin >> result.minute;
    cin.ignore(1000, 10);

    cout << "Enter the second ";
    cin >> result.second;
    cin.ignore(1000, 10);

    return result;
}

void outputTimesOfDay(int size, TimeOfDay* t)
{
    for (int i = 0; i < size; i++)
    {
        cout.fill('0');
        cout << setw(2) << t[i].hour << ':'
            << setw(2) << t[i].minute << ':'
            << setw(2) << t[i].second << endl;
        cout.fill(' '); // set back to a space
    }
}

int main()
{
    TimeOfDay a[5];

    for (int i = 0; i < 5; i++)
        a[i] = getTimeOfDay();
    outputTimesOfDay(5, a);
}
```