**C++ Program to Calculate Difference Between Two Time Period**

To understand this example, you should have the knowledge of the following [C++ programming](https://www.programiz.com/cpp-programming) topics:

* [C++ Structures](https://www.programiz.com/cpp-programming/structure)
* [C++ Structure and Function](https://www.programiz.com/cpp-programming/structure-function)
* [C++ Pointers to Structure](https://www.programiz.com/cpp-programming/structure-pointer)

**Example: Program to Time Difference**

// Computes time difference of two time period

// Time periods are entered by the user

#include <iostream>

using namespace std;

struct TIME

{

int seconds;

int minutes;

int hours;

};

void computeTimeDifference(struct TIME, struct TIME, struct TIME \*);

int main()

{

struct TIME t1, t2, difference;

cout << "Enter start time." << endl;

cout << "Enter hours, minutes and seconds respectively: ";

cin >> t1.hours >> t1.minutes >> t1.seconds;

cout << "Enter stop time." << endl;

cout << "Enter hours, minutes and seconds respectively: ";

cin >> t2.hours >> t2.minutes >> t2.seconds;

computeTimeDifference(t1, t2, &difference);

cout << endl << "TIME DIFFERENCE: " << t1.hours << ":" << t1.minutes << ":" << t1.seconds;

cout << " - " << t2.hours << ":" << t2.minutes << ":" << t2.seconds;

cout << " = " << difference.hours << ":" << difference.minutes << ":" << difference.seconds;

return 0;

}

void computeTimeDifference(struct TIME t1, struct TIME t2, struct TIME \*difference){

if(t2.seconds > t1.seconds)

{

--t1.minutes;

t1.seconds += 60;

}

difference->seconds = t1.seconds - t2.seconds;

if(t2.minutes > t1.minutes)

{

--t1.hours;

t1.minutes += 60;

}

difference->minutes = t1.minutes-t2.minutes;

difference->hours = t1.hours-t2.hours;

}

**Output**

Enter hours, minutes and seconds respectively: 11

33

52

Enter stop time.

Enter hours, minutes and seconds respectively: 8

12

15

TIME DIFFERENCE: 11:33:52 - 8:12:15 = 3:21:37

In this program, user is asked to enter two time periods and these two periods are stored in structure variables t1 and t2 respectively.

Then, the computeTimeDifference() function calculates the difference between the time periods and the result is displayed on the screen from the main() function without returning it (call by reference).