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Calculate difference between two dates (number of days)?

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932

I see that this question has been answered for [Java](#), [JavaScript](#), and [PHP](#), but not C#. So, how might one calculate the number of days between two dates in C#?



c#

date



99

edited May 23 '17 at 12:34



Community ♦

1 1

asked Oct 22 '09 at 13:47



leora

40.9k

294

768

1271

- 5 I found this pretty useful really.. [getting a list of dates between start date and end date](#) Hope this helps anyone seeking this in particular in the future :) – [sys_debug](#) Oct 30 '11 at 4:19

The addition and subtraction operators are overloaded for the `DateTime` and `TimeSpan` types as you would expect. It's all pretty straightforward. -- What exact problem did you encounter? – [BrainSlugs83](#) Sep 28 '18 at 21:23

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1744

Assuming `StartDate` and `EndDate` are of type `DateTime` :`(EndDate - StartDate).TotalDays`

edited Sep 30 '14 at 13:39



Rohit

1 3

answered Oct 22 '09 at 13:48



Greg Beech

102k 36 187 236

473 This answer is obviously correct, but you can also use `(a - b).Days` if you are interested in the total days as an `int` rather than a `double` with a decimal representation of the partial day difference. – [PFranchise](#) Dec 11 '12 at 15:27

22 this will return 1 less days, `08/31/2013-08/01/2013=31` but this is returning 30 only. – [J R B](#) Aug 7 '13 at 8:13

51 @JasRajBishnoi - you might want to check your maths. What is `31 - 1`? – [Greg Beech](#) Aug 8 '13 at 18:36

29 JasRaj was also right in a sense that inclusive both dates it returns a day less in difference. It all depends upon the perspective. – [Fahad Abid Janjua](#) Sep 3 '13 at 6:52

19 @FahadAbidJanjua It's not a matter of perspective but a matter of time, I mean, the time part of the date. `08/31/2013 - 08/01/2013` really means `08/31/2013 00:00:00 - 08/01/2013 00:00:00` which explains why it's 30 days, because the `08/31/2013` day is just starting. That also explains why, when querying on a `DateTime` property/field, the proper condition to get a range is `"DateTimeProperty >= FromDate && DateTimeProperty < ToDate.AddDays(1)"` – [Miguel Veloso](#) Jun 29 '16 at 14:33

The top answer is correct, however if you would like only WHOLE

92

days as an int and are happy to forgo the time component of the date then consider:

```
(EndDate.Date - StartDate.Date).Days
```

Again assuming StartDate and EndDate are of type DateTime.

edited Nov 26 '17 at 0:18



Peter Mortensen

13.9k 19 87 113

answered Aug 27 '15 at 3:33



Darren

4,564 30 44


- 5 The best answer because "*numbers of days*" normally means whole days. It's worth noting that [Days](#) doesn't stop at 365 (as other properties like Hours, Minutes, Second which max value is where the next higher property begins). Its the same as TotalDays but without fractions of a day and returning int instead of double. – [Rango](#) Mar 14 '17 at 12:47

Will this always work as expected? For example, if one of the days being compared is a "spring ahead" Daylight Saving Time day, could the subtraction produce a TimeSpan of 23 hours, and if so, would the value of .Days on that 23-hour time span be 0? (I tried experimenting with this myself, but my results are inconclusive so far - stackoverflow.com/questions/43644252/...) – [Jon Schneider](#) Apr 26 '17 at 21:17

Yup, this is what I needed - most valuable answer cmon now nobody wants to think about Minutes and Seconds in calculating days – [ChenChi](#) Jun 13 '17 at 12:28

if only 1,5 day has passed this .Days function will show only 1 Day? how i can alter it to show 2 days? i just have to always add + 1 day? – [CDrosos](#) Jun 5 '18 at 14:29

Upvoting this, because very often you would need "CALENDAR days between two dates", not just "number of 24-hour intervals". For example, you need to display an "X days ago" label in a timeline. In this case the

difference between "Monday 11:59 pm" and "Tuesday 7:00 am" should be "1 day (ago)"... So the `.Date` part is really useful. Hope I'm making myself clear – [Alex](#) Jan 9 at 23:33 



// Difference in days, hours, and minutes.

12

`TimeSpan ts = EndDate - StartDate;`



// Difference in days.

`int differenceInDays = ts.Days; // This is in int`

`double differenceInDays= ts.TotalDays; // This is in double`

// Difference in Hours.

`int differenceInHours = ts.Hours; // This is in int`

`double differenceInHours= ts.TotalHours; // This is in double`

// Difference in Minutes.

`int differenceInMinutes = ts.Minutes; // This is in int`

`double differenceInMinutes= ts.TotalMinutes; // This is in double`

You can also get the difference in seconds, milliseconds and ticks.

edited Nov 26 '17 at 0:17



[Peter Mortensen](#)

13.9k 19 87 113

answered Nov 17 '16 at 6:30



[Vijay Maheriya](#)

1,094 10 21



Using a timespan would solve the problems as it has many attributes:

2

```
DateTime strt_date = DateTime.Now;
DateTime end_date = Convert.ToDateTime("10/1/2017 23:59:59");
//DateTime add_days = end_date.AddDays(1);
TimeSpan nod = (end_date - strt_date);
Console.WriteLine(strt_date + " " + end_date + " " + " " + nod.TotalHours);
Console.ReadKey();
```

edited Nov 26 '17 at 0:16



Peter Mortensen

13.9k 19 87 113

answered Jun 1 '17 at 4:31



Vijay Vj

59 9



For beginners like me that will stumble upon this tiny problem, in a simple line, with sample conversion to **int**:

4

```
int totalDays = Convert.ToInt32((DateTime.UtcNow.Date - myDateTime.Date).
```

This calculates the total days from today (DateTime.UtcNow.Date) to a desired date (myDateTime.Date).

If myDateTime is yesterday, or older date than today, this will give a positive (+) integer result.

On the other side, if the myDateTime is tomorrow or on the future date, this will give a negative (-) integer result due to rules of addition.

Happy coding! ^_^

edited Nov 26 '17 at 0:15



Peter Mortensen



13.9k 19 87 113

answered Aug 1 '17 at 21:36



LoudSpeaker

156 9

This works best – [C.lkongo](#) Apr 6 at 21:11



Get the difference between the two dates and then get the days from:

0



```
int total_days = (EndDate - StartDate).TotalDays
```

edited Apr 1 '17 at 8:08



Peter Mortensen

13.9k 19 87 113

answered Aug 29 '16 at 17:25



Muhamad Eissa

21 4

While this code snippet may solve the question, [including an explanation](#) really helps to improve the quality of your post. Remember that you are answering the question for readers in the future, and those people might not know the reasons for your code suggestion. Please also try not to crowd your code with explanatory comments, as this reduces the readability of both the code and the explanations! – [FrankerZ](#) Aug 29 '16 at 19:44

-
- 1 TotalDays returns a double: msdn.microsoft.com/en-us/library/... So you need a conversion to int – [qnguyen](#) Mar 15 '18 at 22:58

You can use the code below:

0

```
int DateDifInSecond = EndDate.Subtract(StartDate).TotalSeconds
```

edited Apr 1 '17 at 8:08



Peter Mortensen

13.9k 19 87 113

answered Jan 1 '17 at 9:02



Code_Worm

886 1 15 20

First declare a class that will return later:

0

```
public void date()
{
    Datetime startdate;
    Datetime enddate;
    Timespan remaindate;

    startdate = DateTime.Parse(txtstartdate.Text).Date;
    enddate = DateTime.Parse(txtenddate.Text).Date;

    remaindate = enddate - startdate;

    if (remaindate != null)
    {
        lblmsg.Text = "you have left with " + remaindate.TotalDays +
    }
    else
    {
        lblmsg.Text = "correct your code again.";
    }
}

protected void btnCal_Click(object sender, EventArgs e)
{

```

```
    date();  
}
```

Use a button control to call the above class. Here is an example:

edited Apr 1 '17 at 8:06



Peter Mortensen

13.9k 19 87 113

answered Jan 8 '15 at 12:59



Muba

17 1

For a and b as two `DateTime` types:

3

```
DateTime d = DateTime.Now;  
DateTime c = DateTime.Now;  
c = d.AddDays(145);  
string cc;  
Console.WriteLine(d);  
Console.WriteLine(c);  
var t = (c - d).Days;  
Console.WriteLine(t);  
cc = Console.ReadLine();
```

edited Apr 1 '17 at 8:05



Peter Mortensen

13.9k 19 87 113

answered Jul 10 '14 at 19:16



Pratyush Dhanuka

436 1 5 19

You can try this

8

`EndDate.Date.Subtract(DateTime.Now.Date).Days`

answered Jun 11 '15 at 6:18



[Rohidas Kadam](#)

303 3 11

-
- 1 This actually helped me the best as my date difference was half a day but still when America is 1 day behind Australia I need to see there's actually one day difference. The other answers mentioned in this thread was showing either zero or some double number below 1 which I don't need. – [Barry Guvenkaya](#) Oct 19 '16 at 1:58
-

In case someone wants numer of whole days as a double (a , b of type `DateTime`):

17

`(a.Date - b.Date).TotalDays`

answered Jun 13 '14 at 14:41



[kingPuppy](#)

1,611 13 13

-
- 2 This will always be a whole number though (i.e., n.00000) because the Date portion is always midnight. – [JoeNCA](#) Aug 28 '15 at 21:10
-

`protected void Calendar1_SelectionChanged(object sender, EventArgs e`
`{`

-20



```

DateTime d = Calendar1.SelectedDate;
// int a;
TextBox2.Text = d.ToShortDateString();
string s = Convert.ToDateTime(TextBox2.Text).ToShortDateString()
string s1 = Convert.ToDateTime(Label7.Text).ToShortDateString()
DateTime dt = Convert.ToDateTime(s).Date;
DateTime dt1 = Convert.ToDateTime(s1).Date;
if (dt <= dt1)
{
    Response.Write("<script>alert(' Not a valid Date to extend w:
</script>");
}
else
{
    string diff = dt.Subtract(dt1).ToString();
    Response.Write(diff);
    Label18.Text = diff;
    Session["diff"] = Label18.Text;
}
}

```

edited Apr 20 '14 at 17:27



songyuanyao

94.1k 11 182 250

answered Apr 20 '14 at 17:00



sangeetha

1

- 20 This code is wrong in so many ways! 1) Lots of Winforms code not related to the question. 2) Wired way of showing message boxes using (I guess an WebBrowser control). 3) using a WebBrowser control to show a text that is shown in label already. 4) Using the OperatorOverload Subtract() (default for "-" operations) which is used for anyway if you do a "MyDateA - MyDateB". 5) No explanation tho this pile of code. – Marc Aug 6 '14 at 8:39

```

DateTime xmas = new DateTime(2009, 12, 25);

```

33



```
double daysUntilChristmas = xmas.Subtract(DateTime.Today).TotalDays;
```

edited Nov 3 '13 at 9:22



Soner Gönül

81.3k 27 150 284

answered Oct 22 '09 at 13:49



Philip Wallace

6,789 2 23 39

-
- 1 Anyway to get the days in between in DateTime format? Because I need each date to modify a certain field in tables :) Edit: Got it and posted it as answer below. Thanks – [sys_debug](#) Oct 30 '11 at 4:16
-
- 4 DateTime xmas = new DateTime(DateTime.Today.Year, 12, 25); would make it work on a year by year basis, not just 2009 :) – [user593806](#) Jul 12 '13 at 12:30
-
- 1 Subtract() is the OperatorOverload for DateTimes so its the same "(xmas - DateTime.Today).TotalDays - just longer. – [Marc](#) Aug 6 '14 at 8:41
-

I think this will do what you want:

43



```
DateTime d1 = DateTime.Now;
DateTime d2 = DateTime.Now.AddDays(-1);
```

```
TimeSpan t = d1 - d2;
double NrOfDays = t.TotalDays;
```

answered Oct 22 '09 at 13:49



pyrocumulus

7,168 1 30 49

Use TimeSpan object which is the result of date subtraction:

126

```
DateTime d1;  
DateTime d2;  
return (d1 - d2).TotalDays;
```

answered Oct 22 '09 at 13:49



[Vitaliy Liptchinsky](#)

4,465 2 14 24

-
- 2 Upvoted simply because it makes it clear that the (d1 - d2) will return a TimeSpan object. – [Morvael](#) Jul 15 '16 at 9:54
-
- 2 Its amazing the difference in answering 1 minute later can have on your up-votes. – [Stephen McDowell](#) Oct 30 '18 at 12:46
-

protected by [abatishchev](#) Feb 6 '15 at 21:28

Thank you for your interest in this question. Because it has attracted low-quality or spam answers that had to be removed, posting an answer now requires 10 [reputation](#) on this site (the [association bonus does not count](#)).

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