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**Chat history**

**You said:**

I'm working on a flow in Micrsoft's cloud-based version of PowerAutomate. Are you able to help me with that language?

**ChatGPT said:**

Updated saved memory

Yes, I can help you with Power Automate flows. What are you trying to achieve with your flow?

**You said:**

I'm going to give you an expression that I created. I want you to tell me what it does. Here's the expression: add(if(less(variables('CurrentMonth\_1stDayOfWeek'),variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'),variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'),7),variables('CurrentMonth\_1stDayOfWeek'))),14)

**ChatGPT said:**

This expression calculates a target day in the future based on two variables: the first day of the current month (CurrentMonth\_1stDayOfWeek) and a target day of the week (TargetDayOfWeek). Here's what it does step by step:

1. less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek'))**:**
   * This checks if the first day of the current month is less than the target day of the week. If true, the result of the if function is the first branch (described in the next step). If false, it follows the second branch.
2. **First branch (when**less**is true):**
   * sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek'))**:**
     + It subtracts the first day of the week from the target day of the week. This gives the number of days between the two.
3. **Second branch (when**less**is false):**
   * add(variables('TargetDayOfWeek'), 7)**:**
     + Adds 7 to the target day, essentially pushing the target into the next week.
   * sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek'))**:**
     + Then it subtracts the current month’s first day of the week from the adjusted target day (now in the next week). This gives the number of days to the target in the next week.
4. add(..., 14)**:**
   * Finally, the result from the above if function is added to 14. This pushes the final result two weeks ahead of the calculated day.

**In summary:**

This expression calculates the number of days between the first day of the current month and the target day of the week, then adds 14 days to move two weeks into the future. Depending on whether the target day is earlier or later in the week compared to the first day, the calculation adapts to avoid negative results.

**You said:**

What value does the expression return if the first day of the month is a Monday (1) and the target day of the week is a Friday (5)? Please show your work.

**ChatGPT said:**

Let's break down the expression step by step for the case where:

* CurrentMonth\_1stDayOfWeek = 1 (Monday)
* TargetDayOfWeek = 5 (Friday)

The expression is:

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek')) ), 14)

**Step-by-Step Evaluation:**

1. **Evaluate**less(1, 5):
   * Since 1 (Monday) is less than 5 (Friday), this evaluates to **true**.
   * As a result, we follow the first branch of the if statement, which is:

sub(5, 1)

1. **Evaluate**sub(5, 1):
   * Subtracting 1 (Monday) from 5 (Friday) gives **4**.
   * So, the value of the if expression is now **4**.
2. **Next, the expression adds 14 to this result**:

add(4, 14)

1. **Evaluate**add(4, 14):
   * Adding 4 and 14 gives **18**.

**Final Result:**

The expression returns **18**.

**Explanation:**

This means the calculated target day is 18 days after the first day of the month (Monday), which would land on a future Friday, two weeks later.

**You said:**

What value does the expression return if the first day of the month is a Saturday (6) and the target day of the week is a Friday (5)? Please show your work.

**ChatGPT said:**

Let's evaluate the expression for the case where:

* CurrentMonth\_1stDayOfWeek = 6 (Saturday)
* TargetDayOfWeek = 5 (Friday)

The expression is:

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek')) ), 14)

**Step-by-Step Evaluation:**

1. **Evaluate**less(6, 5):
   * Since 6 (Saturday) is **not** less than 5 (Friday), this evaluates to **false**.
   * So, we follow the second branch of the if statement, which is:

sub(add(5, 7), 6)

1. **Evaluate**add(5, 7):
   * Adding 7 to 5 (Friday) gives **12**.
   * So, the inner expression becomes:

sub(12, 6)

1. **Evaluate**sub(12, 6):
   * Subtracting 6 (Saturday) from 12 gives **6**.
   * So, the value of the if expression is now **6**.
2. **Next, the expression adds 14 to this result**:

add(6, 14)

1. **Evaluate**add(6, 14):
   * Adding 6 and 14 gives **20**.

**Final Result:**

The expression returns **20**.

**Explanation:**

This means the calculated target day is 20 days after the first day of the month (Saturday), which would land on a Friday, two weeks later.

**You said:**

What value does the expression return if the first day of the month and the target day of the week are both Friday (5)? Please show your work.

**ChatGPT said:**

Let's evaluate the expression for the case where:

* CurrentMonth\_1stDayOfWeek = 5 (Friday)
* TargetDayOfWeek = 5 (Friday)

The expression is:

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek')) ), 14)

**Step-by-Step Evaluation:**

1. **Evaluate**less(5, 5):
   * Since 5 (Friday) is **not** less than 5 (Friday), this evaluates to **false**.
   * So, we follow the second branch of the if statement, which is:

sub(add(5, 7), 5)

1. **Evaluate**add(5, 7):
   * Adding 7 to 5 gives **12**.
   * So, the inner expression becomes:

sub(12, 5)

1. **Evaluate**sub(12, 5):
   * Subtracting 5 from 12 gives **7**.
   * So, the value of the if expression is now **7**.
2. **Next, the expression adds 14 to this result**:

add(7, 14)

1. **Evaluate**add(7, 14):
   * Adding 7 and 14 gives **21**.

**Final Result:**

The expression returns **21**.

**Explanation:**

This means the calculated target day is 21 days after the first day of the month (Friday), which would land on a Friday three weeks later.

**You said:**

If we assume the target day is Friday, what value does the expression return for each day of the week (Sunday through Saturday)?

**ChatGPT said:**

Let’s evaluate the expression for each day of the week, assuming the target day is **Friday (5)**. We will go through the days of the week from **Sunday (0)** to **Saturday (6)**, using the expression:

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek')) ), 14)

Where:

* CurrentMonth\_1stDayOfWeek is the day of the week for the first day of the month.
* TargetDayOfWeek is fixed at 5 (Friday).

**1. Sunday (0):**

* CurrentMonth\_1stDayOfWeek = 0
* Evaluate less(0, 5): **true** → First branch:

sub(5, 0) = 5

* Add 14:

add(5, 14) = 19

**Result for Sunday:** **19**

**2. Monday (1):**

* CurrentMonth\_1stDayOfWeek = 1
* Evaluate less(1, 5): **true** → First branch:

sub(5, 1) = 4

* Add 14:

add(4, 14) = 18

**Result for Monday:** **18**

**3. Tuesday (2):**

* CurrentMonth\_1stDayOfWeek = 2
* Evaluate less(2, 5): **true** → First branch:

sub(5, 2) = 3

* Add 14:

add(3, 14) = 17

**Result for Tuesday:** **17**

**4. Wednesday (3):**

* CurrentMonth\_1stDayOfWeek = 3
* Evaluate less(3, 5): **true** → First branch:

sub(5, 3) = 2

* Add 14:

add(2, 14) = 16

**Result for Wednesday:** **16**

**5. Thursday (4):**

* CurrentMonth\_1stDayOfWeek = 4
* Evaluate less(4, 5): **true** → First branch:

sub(5, 4) = 1

* Add 14:

add(1, 14) = 15

**Result for Thursday:** **15**

**6. Friday (5):**

* CurrentMonth\_1stDayOfWeek = 5
* Evaluate less(5, 5): **false** → Second branch:

sub(add(5, 7), 5) = sub(12, 5) = 7

* Add 14:

add(7, 14) = 21

**Result for Friday:** **21**

**7. Saturday (6):**

* CurrentMonth\_1stDayOfWeek = 6
* Evaluate less(6, 5): **false** → Second branch:

sub(add(5, 7), 6) = sub(12, 6) = 6

* Add 14:

add(6, 14) = 20

**Result for Saturday:** **20**

**Summary of Results:**

* **Sunday:** 19
* **Monday:** 18
* **Tuesday:** 17
* **Wednesday:** 16
* **Thursday:** 15
* **Friday:** 21
* **Saturday:** 20

These values represent the number of days between the first day of the month and the target Friday, plus two weeks (14 days).

**You said:**

I'd to change the expression so the value is 14 for Friday (rather than 21). I don't want any of the other values to change. What options do I have? When you present the results, please highlight any changes to the expression with bold font.

**ChatGPT said:**

To change the expression so that the value is **14** for Friday, rather than **21**, while keeping the other results the same, we can adjust the expression specifically for when the first day of the month is Friday. The key is to ensure that the calculation subtracts 7 when the first day of the month and the target day are the same, thus bringing the value from 21 down to 14.

Here are two options to achieve this:

**Option 1: Modify the Condition in the**if**Statement**

We can introduce a special case for when the first day of the month is exactly the same as the target day (both Friday).

**Modified Expression:**

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), \*\*if(equals(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), 0, sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek'))) \*\*)), 14)

**Explanation of Changes:**

* if(equals(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), 0, ...):
  + We check if the first day of the month is the same as the target day.
  + If they are equal, we return 0, so that when 14 is added later, the result will be 14.
  + Otherwise, the original calculation (sub(add(...), ...)) is used as before.

**Option 2: Adjust the Final Addition for the Special Case**

Alternatively, we can keep the original if logic intact and simply subtract 7 from the final result when the first day of the month is Friday.

**Modified Expression:**

add(if(less(variables('CurrentMonth\_1stDayOfWeek'), variables('TargetDayOfWeek')), sub(variables('TargetDayOfWeek'), variables('CurrentMonth\_1stDayOfWeek')), sub(add(variables('TargetDayOfWeek'), 7), variables('CurrentMonth\_1stDayOfWeek')) ), \*\*if(equals(variables('CurrentMonth\_1stDayOfWeek'), 5), 7, 14)\*\* )

**Explanation of Changes:**

* if(equals(variables('CurrentMonth\_1stDayOfWeek'), 5), 7, 14):
  + We check if the first day of the month is Friday (5).
  + If true, we add 7 instead of 14, resulting in a total of 14.
  + Otherwise, we continue adding 14 as before.

**Summary of Changes:**

Both options ensure that when the first day of the month is **Friday (5)**, the value becomes **14** instead of **21**. All other days of the week (Sunday through Saturday) return the same results as before. You can choose whichever option best fits your approach.

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ChatGPT can make mistakes. Check important info.