

Power Automate Expression Cheatsheet

Module 3 — Power Automate Guided by Claude | Day 4, Block 3 | Workflow Definition Language (WDL) syntax used by Power Automate / Logic Apps expressions

When Claude gives you an expression in `@{ . . . }` syntax, **do not paste it straight into a flow**. Validate every function name, every referenced step, and every bracket against this sheet first. This is real, stable Power Automate / Logic Apps expression-language syntax — unchanged for years — not something to guess at.

1 Referencing Data

Syntax	What it does	Example
<code>triggerBody()</code>	The body payload of whatever triggered the flow.	<code>triggerBody()?['email']</code>
<code>triggerOutputs()</code>	Full output object of the trigger (headers + body).	<code>triggerOutputs()['body/subject']</code>
<code>body('Step_name')</code>	Output body of a named action. Spaces in the step name become underscores.	<code>body('Get_response_details')</code>
<code>outputs('Step_name')</code>	Full output object of a named action (status, headers, body).	<code>outputs('Send_an_email')['statusCode']</code>
<code>variables('VarName')</code>	Current value of a flow variable.	<code>variables('RunningTotal')</code>
<code>items('Apply_to_each')</code>	The current item inside an Apply to each loop.	<code>items('Apply_to_each')?['Title']</code>
<code>first(collection)</code>	First element of an array or first character(s) of a string.	<code>first(body('List_rows')?['value'])</code>
<code>last(collection)</code>	Last element of an array or last character(s) of a string.	<code>last(split(triggerBody()?['Email'],'@'))</code>

2 String Functions

Syntax	What it does	Example
<code>concat(a, b, ...)</code>	Joins two or more strings into one.	<code>concat('Hello, ', triggerBody()?['name'])</code>
<code>split(text, delimiter)</code>	Splits a string into an array on a delimiter.	<code>split(triggerBody()?['Email'],'@')</code>
<code>substring(text, start, length)</code>	Extracts a portion of a string starting at an index.	<code>substring('20260723',0,4)</code>
<code>replace(text, old, new)</code>	Replaces every occurrence of a substring with another.	<code>replace(variables('Notes'),' ','')</code>
<code>toUpper(text)</code>	Converts a string to all upper case.	<code>toUpper(body('Get_item')?['Status'])</code>
<code>toLowerCase(text)</code>	Converts a string to all lower case.	<code>toLowerCase(triggerBody()?['Email'])</code>
<code>trim(text)</code>	Removes leading/trailing whitespace.	<code>trim(triggerBody()?['Subject'])</code>

3 Logic / Control Functions

Syntax	What it does	Example
<code>if(condition, ifTrue, ifFalse)</code>	Returns one of two values depending on a boolean condition.	<code>if(equals(variables('Status'),'Approved'),'Go','Hold')</code>
<code>and(expr1, expr2, ...)</code>	True only if all boolean expressions are true.	<code>and(greater(variables('Score'),80), equals(variables('Region'),'Kw'))</code>
<code>or(expr1, expr2, ...)</code>	True if at least one boolean expression is true.	<code>or(equals(variables('Type'),'VIP'), equals(variables('Type'),'Escalated'))</code>
<code>not(expr)</code>	Reverses a boolean value.	<code>not(equals(triggerBody()?['Status'],'Closed'))</code>
<code>equals(a, b)</code>	True if two values are equal.	<code>equals(triggerBody()?['Approved'], true)</code>

Syntax	What it does	Example
<code>empty(collection)</code>	True if a string, array, or object is empty/null.	<code>empty(triggerBody()?['AttachmentUrl'])</code>
<code>coalesce(a, b, ...)</code>	Returns the first non-null value in the list.	<code>coalesce(triggerBody()?['NickName'], triggerBody()?['FullName'])</code>

4 Date / Time Functions

Syntax	What it does	Example
<code>utcNow()</code>	Current UTC timestamp as an ISO 8601 string.	<code>utcNow()</code>
<code>formatDateTime(ts, format)</code>	Formats a timestamp using a .NET custom format string.	<code>formatDateTime(utcNow(), 'yyyy-MM-dd')</code>
<code>addDays(ts, days)</code>	Adds (or subtracts, with a negative) days to a timestamp.	<code>addDays(utcNow(), 7)</code>
<code>convertTimeZone(ts, from, to, [fmt])</code>	Converts a timestamp between time zones by name.	<code>convertTimeZone(utcNow(), 'UTC', 'Arabian Standard Time')</code>

5 Conversion Functions

Syntax	What it does	Example
<code>int(value)</code>	Converts a string or number to an integer.	<code>int(triggerBody()?['Quantity'])</code>
<code>string(value)</code>	Converts any value to its string representation.	<code>string(variables('Counter'))</code>
<code>float(value)</code>	Converts a string or number to a floating-point number.	<code>float(triggerBody()?['Amount'])</code>
<code>json(value)</code>	Parses a JSON-formatted string into a JSON object.	<code>json(body('HTTP')?['content'])</code>

Common Mistakes to Check For

- **Wrapping rules:** inside a text field (e.g. an email body), an expression must be wrapped as `@{...}`. As a standalone value (e.g. a Condition's field), it is used **bare**, with no braces: `@equals(triggerBody()?['Status'], 'Done')`, not `@{equals(...)}`.
- **Missing-data safety:** use `?` before a bracket property access on data that might not exist, e.g. `body('Get_response_details')?['fieldName']`, so a missing field returns null instead of failing the run.
- **Step name references:** spaces in a step's display name become underscores when referenced in an expression — a step called "Get response details" is referenced as `body('Get_response_details')`.

HOW TO VALIDATE BEFORE PASTING

1. Read every function name in the expression against this sheet — does it exist, spelled correctly?
2. Check that parentheses and braces balance.
3. Check that every referenced step name or variable name actually exists earlier in the flow.
4. Only then paste it in.