Package ‘jqr’

November 8, 2021

Title  Client for 'jq', a 'JSON' Processor
Description  Client for 'jq', a 'JSON' processor (<https://stedolan.github.io/jq/>), written in C. 'jq' allows the following with 'JSON' data: index into, parse, do calculations, cut up and filter, change key names and values, perform conditionals and comparisons, and more.
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at  Format strings and escaping

Description
Format strings and escaping

Usage
at(.data, ...)
at_(.data, ..., .dots)

Arguments
.data input. This can be JSON input, or an object of class jqr that has JSON and
query params combined, which is passed from function to function when using
the jqr DSL.

... Comma separated list of unquoted variable names
.dots Used to work around non-standard evaluation
dots dots

Examples

x <- '{"user":"stedolan","titles":['"JQ Primer", "More JQ"]}'
x %>% at(base64) %>% peek
x %>% at(base64)
x %>% index() %>% at(base64)

y <- ['"fo", "foo", "barfoo", "foobar", "barfoob"]
y %>% index() %>% at(base64)

## prepare for shell use
y %>% index() %>% at(sh)

## rendered as csv with double quotes
z <- '[1, 2, 3, "a"]'
z %>% at(csv)

## rendered as csv with double quotes
z %>% index()
z %>% index() %>% at(text)

## % encode for URI's
#### DOESNT WORK --------------------------

## html escape
#### DOESNT WORK --------------------------

## serialize to json
#### DOESNT WORK --------------------------

build Build arrays and objects

Description

Build arrays and objects

Usage

build_array(.data, ...)
build_array_(.data, ..., .dots)
build_object(.data, ...)
build_object_(.data, ..., .dots)
Arguments

.data  input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.

... Comma separated list of unquoted variable names

.dots  Used to work around non-standard evaluation
dots
dots

Examples

## BUILD ARRAYS

x <- '{"user":"stedolan", "projects": ["jq", "wikiflow"]}'
jq(x, "[.user, .projects[]]")
x %>% build_array(.user, .projects[])

jq('[1, 2, 3]', '[ .[] | . * 2]')
'[1, 2, 3]' %>% build_array([[] | . * 2]

## BUILD OBJECTS

'("foo": 5, "bar": 7)'
'("foo": 5, "bar": 7)'

# using json dataset, just first element
x <- commits %>% index(0)
x %>% build_object(message = .commit.message, name = .commit.committer.name)
x %>% build_object(sha = .commit.tree.sha, author = .author.login)

# using json dataset, all elements
x <- index(commits)
x %>% build_object(message = .commit.message, name = .commit.committer.name)
x %>% build_object(sha = .sha, name = .commit.committer.name)

# many JSON inputs
'("foo": 5, "bar": 7) "foo": 50, "bar": 7) "foo": 500, "bar": 7)'

build_object(hello = .foo)

---

combine  Combine json pieces

Description

Combine json pieces

Usage

combine(x)
commits

Arguments

x Input, of class json

Examples

x <- '{"foo": 5, "bar": 7}' %>% select(a = .foo)
combine(x)

(x <- commits %>% index() %>%
  select(sha = .sha, name = .commit.committer.name))
combine(x)

commits GitHub Commits Data

Description

GitHub Commits Data

Format

A character string of json github commits data for the jq repo.

dot dot and related functions

Description

dot and related functions

Usage

dot(.data)

dot_(.data, dots = ".")

dotstr(.data, ...)

dotstr_(.data, ..., .dots)

Arguments

.data input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.
dots dots
... Comma separated list of unquoted variable names
.dots Used to work around non-standard evaluation
Examples

```r
str <- '[["name":"JSON", "good":true],{"name":"XML", "good":false}]'
str %>% dot
str %>% index %>% dotstr(name)
'("foo": 5, "bar": 8)' %>% dotstr(foo)
'("foo": {"bar": 8})' %>% dotstr(foo.bar)
```

---

**funs**

*Define and use functions*

---

**Description**

Define and use functions

**Usage**

```r
funs(.data, fxn, action)
```

**Arguments**

- `.data` input
- `fxn` A function definition, without `def` (added internally)
- `action` What to do with the function on the data

**Examples**

```r
jq("[1,2,10,20]", 'def increment: . + 1; map(increment)')
"[1,2,10,20]" %>% funs('increment: . + 1', 'map(increment)')
"[1,2,10,20]" %>% funs('increment: . / 100', 'map(increment)')
"[1,2,10,20]" %>% funs('increment: . / 100', 'map(increment)')
'[[1,2],[10,20]]' %>% funs('addvalue(f): f as $x | map(. + $x)', 'addvalue([0])')
"[1,2]" %>% funs('f(a;b;c;d:e:f): [a+1,b,c,d,e,f]', 'f([0],[1],[0],[0],[0],[0])')
"[1,2,3,4]" %>% funs('fac: if . == 1 then 1 else . * (.-1 | fac) end', '[[0] | fac]')
```

---

**index**

*index and related functions*

---

**Description**

index and related functions
Usage

index(.data, ...)  
index_(.data, ..., .dots)  
indexif(.data, ...)  
indexif_(.data, ..., .dots)  
dotindex(.data, ...)  
dotindex_(.data, ..., .dots)

Arguments

.data      input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.

...  Comma separated list of unquoted variable names

.dots        Used to work around non-standard evaluation

dots      dots

Details

• index/index_ - queries like: .[], .[0], .[1:5], .["foo"]
• indexif/indexif_ - queries like: .["foo"]?
• dotindex/dotindex_ - queries like: .[].foo, .[].foo.bar

Examples

str <-'["name":"JSON", "good":true}, {"name":"XML", "good":false}]'

str %>% index
  '("name":"JSON", "good":true)' %>% indexif(name)
  '("name":"JSON", "good":true)' %>% indexif(good)
  '("name":"JSON", "good":true)' %>% indexif(that)
  '("a": 1, "b": 1)' %>% index
  '[]' %>% index
  '["name":"JSON", "good":true}, {"name":"XML", "good":false}]' %>% index(0)
  'a", "b", "c", "d", "e"]' %>% index(2)
  'a", "b", "c", "d", "e"]' %>% index('2:4')
  'a", "b", "c", "d", "e"]' %>% index('2:5')
  'a", "b", "c", "d", "e"]' %>% index('3:')
  'a", "b", "c", "d", "e"]' %>% index('2:')

str %>% index %>% select(bad = .name)

'[["name":"JSON", "good":true}, {"name":"XML", "good":false}]' %>%
dotindex(name)
'[["name":"JSON", "good":true}, {"name":"XML", "good":false}]' %>%

Execute a query with jq

jq

Description

jq is meant to work with the high level interface in this package. jq also provides access to the low level interface in which you can use jq query strings just as you would on the command line. Output gets class of json, and pretty prints to the console for easier viewing. jqr doesn’t do pretty printing.

Usage

jq(x, ...)

## S3 method for class 'jqr'
jq(x, ...)

## S3 method for class 'character'
jq(x, ..., flags = jq_flags())

## S3 method for class 'json'
jq(x, ..., flags = jq_flags())

## S3 method for class 'connection'
jq(x, ..., flags = jq_flags(), out = NULL)

Arguments

x

json object or character string with json data. this can be one or more valid json objects

... character specification of jq query. Each element in code... will be combined with " | ", which is convenient for long queries.

flags

See jq_flags

out

a filename, callback function, connection object to stream output. Set to ‘NULL’ to buffer all output and return a character vector.

See Also

peek
Examples

'("a": 7)' %>% do(.a + 1)
'[8,3,null,6]' %>% sortj

x <- '([('message": "hello", "name": "jenn"},
   ("message": "world", "name": "beth")]
jq(index(x))

jq('{"a": 7, "b": 4}', 'keys')
jq('[8,3,null,6]', 'sort')

# many json inputs
jq(c('"[123, 456]", [77, 88, 99", [41]", \".\"")
# Stream from connection
tmp <- tempfile()
writeLines(c('"[123, 456]", [77, 88, 99", [41]", tmp)
jq(file(tmp), ".\"")

## Not run:
# from a url
x <- 'http://jeroen.github.io/data/diamonds.json'
jq(url(x), ".\"")

# from a file
file <- file.path(tempdir(), "diamonds.nd.json")
download.file(x, destfile = file)
jq(file(file), ".\carat")
jq(file(file), "select(.carat > 1.5)")
jq(file(file), 'select(.carat > 4 and .cut == "Fair")')

## End(Not run)

Description

An R client for the C library jq

Low-level

Low level interface, in which you can execute 'jq' code just as you would on the command line. Available via jq

High-level DSL

High-level, uses a suite of functions to construct queries. Queries are constructed, then executed internally with jq
Pipes

The high level DSL supports piping, though you don’t have to use pipes.

NSE and SE

Most DSL functions have NSE (non-standard evaluation) and SE (standard evaluation) versions, which make jqr easy to use for interactive use as well as programming.

jq version

We link to jq through the installed version on your system, so the version can vary. Run jq --version to get your jq version

indexing

note that jq indexing starts at 0, whereas R indexing starts at 1. So when you want the first thing in an array using jq, for example, you want 0, not 1

output data format

Note that with both the low level interface and the high level DSL, we print the output to look like a valid JSON object to make it easier to look at. However, it’s important to know that the output is really just a simple character string or vector of strings - it’s just the print function that pretty prints it and makes it look like a single JSON object. What jq is giving you often is a stream of valid JSON objects, each one of which is valid, but altogether are not valid. However, a trick you can do is to wrap your jq program in brackets like `[[]]` instead of `[]` to give a single JSON object

Related to above, you can use the function provided `string` with the high level DSL to get back a character string instead of pretty printed version

---

**jqr_new**

**JQ Streaming API**

**Description**

Low level JQ API. First create a program using a 'query' and 'flags' and then feed pieces of data.

**Usage**

```r
jqr_new(query, flags = jq_flags())
```

```r
jqr_feed(jqr_program, json, unlist = TRUE, finalize = FALSE)
```
**jq_flags**

**Arguments**

- **query**: string with a valid jq program
- **flags**: See [jq_flags](#)
- **jq_program**: object returned by [jqr_new](#)
- **json**: character vector with json data. If the JSON object is incomplete, you must set 'finalize' to 'FALSE' otherwise you get an error.
- **unlist**: if `TRUE` returns a single character vector with all output for each string in 'json' input
- **finalize**: completes the parsing and verifies that the JSON string is valid. Set this to 'TRUE' when feeding the final piece of data.

**Examples**

```r
program <- jqr_new(".["]
jqr_feed(program, c("[123, 456]","[77, 88, 99"]")
jqr_feed(program, c("[41, 234]"))
jqr_feed(program, ", finalize = TRUE)
```

---

**jq_flags**

*Flags for use with jq*

**Description**

The `flags` function is provided for the high-level DSL approach, whereas the `jq_flags` function is used to provide the low-level `jq` with the appropriate flags.

**Usage**

```r
jq_flags(
  pretty = FALSE,
  ascii = FALSE,
  color = FALSE,
  sorted = FALSE,
  stream = FALSE,
  seq = FALSE
)
```
### Arguments

- **pretty**
  - Pretty print the json (different to jsonlite's pretty printing).
- **ascii**
  - Force jq to produce pure ASCII output with non-ASCII characters replaced by equivalent escape sequences.
- **color**
  - Add ANSI escape sequences for coloured output
- **sorted**
  - Output fields of each object with keys in sorted order
- **stream**
  - Parse the input in streaming fashion, outputing arrays of path and leaf values like jq --stream command line.
- **seq**
  - Use the application/json-seq MIME type scheme for separating JSON like the jq --seq command line.
- **.data**
  - A jqr object.

### Examples

```json
{
  "a": 7,
  "z": 0,
  "b": 4
}
```

```jq
{"a": 7, "z":0, "b": 4} %>% flags(sorted = TRUE)
```

```jq
jq("{"a": 7, "z":0, "b": 4}", ".") %>% flags(sorted = TRUE)
```

```jq
jq("{"a": 7, "z":0, "b": 4}", ".", flags = jq_flags(sorted = TRUE))
```

### Description

keys takes no input, and retrieves keys. del deletes provided keys. haskey checks if a json string has a key, or the input array has an element at the given index.

### Usage

- **keys(.data)**
- **del(.data, ...)**
- **del_(.data, ..., .dots)**
- **haskey(.data, ...)**
- **haskey_(.data, ..., .dots)**

### Arguments

- **.data**
  - input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.
- **...**
  - Comma separated list of unquoted variable names
- **.dots**
  - Used to work around non-standard evaluation
- **dots**
Examples

### get keys
str <- "{"foo": 5, "bar": 7}"
jq(str, "keys")
str %>% keys()

### delete by key name
jq(str, "del(.bar)")
str %>% del(bar)

### check for key existence
str3 <- '[[0,1], ["a","b","c"],
jq(str3, "map(has(2))")
str3 %>% haskey(2)
jq(str3, "map(has(1,2))")
str3 %>% haskey(1,2)

### many JSON inputs
'("foo": 5, "bar": 7} {"hello": 5, "world": 7}' %>% keys
'("foo": 5, "bar": 7} {"hello": 5, "bar": 7}' %>% del(bar)

---

**Description**

Logical tests

**Usage**

- allj(.data)
- anyj(.data)

**Arguments**

.data input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.

**Examples**

### any
'[true, false]' %>% anyj
'[
false, false]' %>% anyj
'[]' %>% anyj

### all
'[
true, false]' %>% allj
## many JSON inputs

```r
'[[true, true]]' %>% allj
'[]' %>% allj
```

```r
## many JSON inputs

`'[[true, false] [true, true] [false, false]]' %>% anyj

'[[true, false] [true, true] [false, false]]' %>% allj
```

### Manipulation operations

<table>
<thead>
<tr>
<th><code>manip</code></th>
<th><strong>Manipulation operations</strong></th>
</tr>
</thead>
</table>

**Description**

Manipulation operations

**Usage**

```r
join(.data, ...)
```

```r
join_(.data, ..., .dots)
```

```r
splitj(.data, ...)
```

```r
splitj_(.data, ..., .dots)
```

```r
ltrimstr(.data, ...)
```

```r
ltrimstr_(.data, ..., .dots)
```

```r
rtrimstr(.data, ...)
```

```r
rtrimstr_(.data, ..., .dots)
```

```r
startswith(.data, ...)
```

```r
startswith_(.data, ..., .dots)
```

```r
endswith(.data, ...)
```

```r
endswith_(.data, ..., .dots)
```

```r
index_loc(.data, ...)
```

```r
index_loc_(.data, ..., .dots)
```

```r
rindex_loc(.data, ...)
```

```r
rindex_loc_(.data, ..., .dots)
```
indices(.data, ...)  
indices_(.data, ..., .dots)  
tojson(.data)  
fromjson(.data)  
tostring(.data)  
tonumber(.data)  
contains(.data, ...)  
contains_(.data, ..., .dots)  
uniquej(.data, ...)  
uniquej_(.data, ..., .dots)  
group(.data, ...)  
group_(.data, ..., .dots)  

Arguments  
.data input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.  
... Comma separated list of unquoted variable names  
.dots Used to work around non-standard evaluation  
dots dots  

See Also  
add  

Examples  

# join  
str <- c("a", "b,c,d","e")  
jq(str, \[join(\#, \"")\])  
str %>% join  
str %>% join(\'\;\')  
str %>% join(\'yep\')  
## many JSON inputs  
\['["a","b,c,d","e"] ["a","f,e,f"]\'] %>% join(\'---\')
# split
jq('a, b, c, d, e', 'split(" ", )')

# ltrimstr
jq(['"fo", "foo", "barfoo", "foobar", "afoo"'], ['[].ltrimstr("foo")'])
'"fo", "foo", "barfoo", "foobar", "afoo"'

# rtrimstr
jq(['"fo", "foo", "barfoo", "foob"'], ['[].rtrimstr("foo")'])
'"fo", "foo", "barfoo", "foob"'

# startswith
str <- "a, b, cd, efg, hijk"
str %>% index %>% startswith("foo")

# endswith
str %>% index %>% endswith("foo")
str %>% index %>% endswith("bar")

# contains
"foo", "bob" %>% contains("bar")
"["foobaz", "blarp"]" %>% contains(["baz", "bar"])
"["foobaz", "blarp"]" %>% contains(["baz", "bar"])
str <- "{foo: 12, "bar":[1,2,{"barp":12, "blip":13}]}
str %>% contains([foo: 12, bar: [{barp: 12}]])
str %>% contains([foo: 12, bar: [{barp: 15}]])

# unique
[1,2,3,4,5,6,7,8] %>% unique
```r
str %>% uniquej(foo)
str %>% uniquej("foo")
"["chunky", "bacon", "kitten", "cicada", "asparagus"]" %>% uniquej(length)

# group
x <- 
\[
\begin{array}{c}
{["foo":1, "bar":10), ["foo":3, "bar":100], ["foo":1, "bar":1]}\\
\end{array}
\]
x %>% group(foo)
x %>% group_("foo")
```

### Description
Math operations

### Usage
- `do(.data, ...)`
- `do_.(data, ..., .dots)`
- `lengthj(.data)`
- `sqrtj(.data)`
- `floorj(.data)`
- `minj(.data, ...)`
- `minj_.(data, ..., .dots)`
- `maxj(.data, ...)`
- `maxj_.(data, ..., .dots)`
- `ad(.data)`
- `map(.data, ...)`
- `map_.(data, ..., .dots)`

### Arguments
- `.data` input. This can be JSON input, or an object of class `jqr` that has JSON and query params combined, which is passed from function to function when using the `jqr` DSL.
- `...` Comma separated list of unquoted variable names
Examples

# do math
jq({'a': 7}, '.a + 1')
# adding null gives back same result
jq({'a': 7}, '.a + null')
jq({'a': 7}, '.a += 1')
'{"a": 7}' %>% do(.a + 1)
# {'a': 7}' %>% do(.a += 1) # this doesn't work quite yet
'{"a": [1,2], "b": [3,4]}' %>% do(.a + .b)
'{"a": [1,2], "b": [3,4]}' %>% do(.a - .b)
'{"a": 3}' %>% do(4 - .a)
['"xml", "yaml", "json' %>% do('. - ['"xml", "yaml"]')
'5' %>% do(10 / . * 3)
### many JSON inputs
'{"a": [1,2], "b": [3,4]} {'a": [1,5], "b": [3,10]}' %>% do(.a + .b)

# comparisons
'[[5,4,2,7]]' %>% index() %>% do(. < 4)
'[[5,4,2,7]]' %>% index() %>% do(. > 4)
'[[5,4,2,7]]' %>% index() %>% do(. <= 4)
'[[5,4,2,7]]' %>% index() %>% do(. >= 4)
'[[5,4,2,7]]' %>% index() %>% do(. == 4)
'[[5,4,2,7]]' %>% index() %>% do(. != 4)
### many JSON inputs
'[[5,4,2,7]] [4,3,200,0.1]' %>% index() %>% do(. < 4)

# length
'[[1,2], "string", {"a":2}, null]' %>% index %>% lengthj

# sqrt
'9' %>% sqrtj
### many JSON inputs
'9 4 5' %>% sqrtj

# floor
'3.14159' %>% floorj
### many JSON inputs
'3.14159 30.14 45.9' %>% floorj

# find minimum
'[["foo":1, "bar":14], {"foo":2, "bar":3}]]' %>% minj
'[["foo":1, "bar":14], {"foo":2, "bar":3}]]' %>% minj(foo)
'[["foo":1, "bar":14], {"foo":2, "bar":3}]]' %>% minj(bar)
### many JSON inputs
'[["foo":1], {"foo":14}] [["foo":2], {"foo":3}]]' %>% minj(foo)

# find maximum
paths

### paths

Outputs paths to all the elements in its input

#### Description

Outputs paths to all the elements in its input

#### Usage

```r
paths(.data)
```

#### Arguments

- `.data` input
Examples

`'[1,[["a":2]]] %>% paths`  
`'[["name":"JSON", "good":true}, {"name":"XML", "good":false}] %>% paths`  

---

peek  

**Peek at a query**

---

Description

Prints the query resulting from jq all in one character string just as you would execute it on the command line. Output gets class of json, and pretty prints to the console for easier viewing.

Usage

`peek(.data)`

Arguments

- `.data` (list) input, using higher level interface

See Also

- jq.

Examples

`{"a": 7} %>% do(.a + 1) %>% peek`  
`[8,3,null,6] %>% sortj %>% peek`  

---

rangej  

**Produce range of numbers**

---

Description

Produce range of numbers

Usage

`rangej(x, array = FALSE)`

Arguments

- `x`  
  Input, single number or number range.

- `array`  
  (logical) Create array. Default: FALSE
recurse

Search through a recursive structure - extract data from all levels

Description

Search through a recursive structure - extract data from all levels

Usage

recurse(.data, ...)

recurse_(.data, ..., .dots)

Arguments

.data input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.

... Comma separated list of unquoted variable names

dots Used to work around non-standard evaluation

dots dots

Examples

x <- '{"name": "/", "children": [
  "name": "/bin", "children": [
    {"name": "/bin/ls", "children": []},
    {"name": "/bin/sh", "children": []}
  ],
  "name": "/home", "children": [
    {"name": "/home/stephen", "children": [
      {"name": "/home/stephen/jq", "children": []}
    ]}
  ]}
} x %>% recurse(.children[]) %>% build_object(name)
x %>% recurse(.children[]) %>% build_object(name) %>% string
Description

The function `select(foo)` produces its input unchanged if `foo` returns TRUE for that input, and produces no output otherwise.

Usage

`select(.data, ...)`

`select_(.data, ..., .dots)`

Arguments

- `.data` input. This can be JSON input, or an object of class `jqr` that has JSON and query params combined, which is passed from function to function when using the `jqr` DSL.
- `...` Comma separated list of unquoted variable names
- `.dots` Used to work around non-standard evaluation

Note

This function has changed what it does dramatically. We were using this function for object construction, which is now done with `build_object`.

Examples

```
jq('[[1,5,3,0,7]], map(select(. >= 2))')
'[[1,5,3,0,7]] %> map(select(. >= 2))

'("foo": 4, "bar": 7) %>% select(.foo == 4)
'("foo": 5, "bar": 7) {"foo": 4, "bar": 7} %>% select(.foo == 4)
'[{"foo": 5, "bar": 7}, {"foo": 4, "bar": 7}] %>% index() %>%
  select(.foo == 4)
'("foo": 4, "bar": 7) {"foo": 5, "bar": 7} {"foo": 8, "bar": 7} %>%
  select(.foo < 6)

x <- '{"foo": 4, "bar": 2} {"foo": 5, "bar": 4} {"foo": 8, "bar": 12}'
jq(x, 'select(.foo < 6) and (.bar > 3)')
jq(x, 'select(.foo < 6) or (.bar > 3)')

x %>% select(.foo < 6) && (.bar > 3)

x <- '{"foo": 5, "bar": 7}, {"foo": 4, "bar": 7}, {"foo": 4, "bar": 9}']
jq(x, '[] | select(.foo == 4) | {user: .bar}')
x %>% index() %>% select(.foo == 4) %>% build_object(user = .bar)

---

**sortj**

**Sort and related**

**Description**

Sort and related

**Usage**

sortj(.data, ...)

sortj_(.data, ..., .dots)

reverse(.data)

**Arguments**

- `.data` input. This can be JSON input, or an object of class `jqr` that has JSON and query params combined, which is passed from function to function when using the jqr DSL.
- `...` Comma separated list of unquoted variable names
- `.dots` Used to work around non-standard evaluation
- `dots` dots

**Examples**

# sort

```
'[8,3,null,6]' %>% sortj

'[{"foo":4, "bar":10}, {"foo":3, "bar":100}, {"foo":2, "bar":1}]' %>%

sortj(foo)
```

# reverse order

```
'[1,2,3,4]' %>% reverse
```

# many JSON inputs

```
'[{"foo":7}, {"foo":4}] [{"foo":300}, {"foo":1}] [{"foo":2}, {"foo":1}]' %>%

sortj(foo)
```

```
'[1,2,3,4] [10,20,30,40] [100,200,300,4000]' %>%

reverse
```
string  

*Give back a character string*

**Description**

Give back a character string

**Usage**

```
string(.data)
```

**Arguments**

- `.data`  
  (list) input, using higher level interface

**See Also**

- `peek`

**Examples**

```
'("a": 7)' %>% do(.a + 1) %>% string
'[/8,3,null,6]' %>% sortj %>% string
```

---

**types**  

*Types and related functions*

**Description**

Types and related functions

**Usage**

```
types(.data)
type(.data, ...)
type_(.data, ..., .dots)
```

**Arguments**

- `.data`  
  input. This can be JSON input, or an object of class `jqr` that has JSON and query params combined, which is passed from function to function when using the `jqr` DSL.
- `...`  
  Comma separated list of unquoted variable names
- `.dots`  
  Used to work around non-standard evaluation
- `dots`
Examples

# get type information for each element
jq([0, false, [], {}, null, "hello"], 'map(type)')

'[0, false, [], {}, null, "hello"]' %>% types

# select elements by type
jq([0, false, [], {}, null, "hello"], '.[] | numbers,booleans')

'[[0, false, [], {}, null, "hello"]' %>% type(booleans)

---

**Description**

Variables

**Usage**

vars(.data, ...)

vars_(.data, ..., .dots)

**Arguments**

.data input. This can be JSON input, or an object of class jqr that has JSON and query params combined, which is passed from function to function when using the jqr DSL.

... Comma separated list of unquoted variable names

.dots Used to work around non-standard evaluation

dots dots

**Examples**

x <- '{
"posts": [
  {"title": "Frist psot", "author": "anon"},
  {"title": "A well-written article", "author": "person1"}
],
"realnames": {
  "anon": "Anonymous Coward",
  "person1": "Person McPherson"
}
}'

x %>% dotstr(posts[])

x %>% dotstr(posts[]) %>% string

x %>% vars(realnames = names) %>% dotstr(posts[]) %>%
  build_object(title, author = "$names[.author]"
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