

Package ‘checkstring’

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Title Common String Format Validation

Version 0.2.1

Description Validates common string formats including financial identifiers (ISIN, CUSIP, SEDOL, FIGI, IBAN, LEI), publication identifiers (ISBN, ISSN, DOI, ORCID), and general formats (email, UUID, URL, semver), with check digit verification where applicable.

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URL <https://m-muecke.github.io/checkstring/>,
<https://github.com/m-muecke/checkstring>

BugReports <https://github.com/m-muecke/checkstring/issues>

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Author Maximilian Mücke [aut, cre] (ORCID:
<<https://orcid.org/0009-0000-9432-9795>>)

Maintainer Maximilian Mücke <muecke.maximilian@gmail.com>

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assert_empty_dots	<i>Assert that dots are empty</i>
-------------------	-----------------------------------

Description

Assert that dots are empty

Usage

assert_empty_dots(...)

Arguments

... (any)
Ellipsis arguments to check.

Value

NULL invisibly if empty, otherwise throws an error.

Examples

```
assert_empty_dots()
```

is_base64	<i>Check if an argument is a base64 string</i>
-----------	--

Description

Check if an argument is a base64 string

Usage

```
is_base64(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid non-empty base64 string, FALSE otherwise.

Examples

```
is_base64("SGVsbG8gV29ybGQ=")
```

is_base64url	<i>Check if an argument is a base64url string</i>
--------------	---

Description

Check if an argument is a base64url string

Usage

```
is_base64url(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid non-empty base64url string, FALSE otherwise.

Examples

```
is_base64url("SGVsbG8gV29ybGQ")
```

is_bic*Check if an argument is a BIC/SWIFT code string*

Description

Check if an argument is a BIC/SWIFT code string

Usage

```
is_bic(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid BIC/SWIFT code string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/ISO_9362 https://knowledge.xmldata.com/support/iso20022/general_rules/bic

Examples

```
is_bic("DEUTDEFF")
```

is_color_hex	Check if an argument is a hex color string
--------------	--

Description

Validates hex color codes in #RGB, #RGBA, #RRGGBB, or #RRGGBBAA format.

Usage

```
is_color_hex(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid hex color string, FALSE otherwise.

References

<https://www.w3.org/TR/css-color-4/#hex-notation>

Examples

```
is_color_hex("#FF5733")  
is_color_hex("#fff")
```

is_cuid2	Check if an argument is a CUID2 string
----------	--

Description

Validates CUID2 strings of 24 (the default length) to 32 (the maximum length) characters.

Usage

```
is_cuid2(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid CUID2 string, FALSE otherwise.

References

<https://github.com/paralleldrive/cuid2>

Examples

```
is_cuid2("ckopqwooh000001la8mbi2im9")
```

is_cusip

Check if an argument is a valid CUSIP string

Description

Validates CUSIP format including Luhn-variant check digit verification.

Usage

```
is_cusip(x)
```

Arguments

x	(any)
	Object to check.

Value

TRUE if x is a valid CUSIP string, FALSE otherwise.

References

<https://en.wikipedia.org/wiki/CUSIP>

Examples

```
is_cusip("037833100")
```

is_doi	<i>Check if an argument is a DOI string</i>
--------	---

Description

Check if an argument is a DOI string

Usage

```
is_doi(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid DOI string, FALSE otherwise.

References

<https://www.doi.org/the-identifier/what-is-a-doi/>

Examples

```
is_doi("10.1038/nphys1170")
```

is_email	<i>Check if an argument is an email address string</i>
----------	--

Description

Check if an argument is an email address string

Usage

```
is_email(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid email address string, FALSE otherwise.

Examples

```
is_email("user@example.com")
```

is_figi*Check if an argument is a valid FIGI string*

Description

Validates FIGI (Financial Instrument Global Identifier) format including Luhn check digit verification. The prefixes BS, BM, GG, GB, GH, KY, and VG are reserved to avoid collisions with ISINs and are rejected.

Usage

```
is_figi(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid FIGI string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/Financial_Instrument_Global_Identifier <https://www.openfigi.com/about/overview> <https://www.omg.org/spec/FIGI/>

Examples

```
is_figi("BBG000BLNNH6")
```

is_hex*Check if an argument is a hexadecimal string*

Description

Check if an argument is a hexadecimal string

Usage

```
is_hex(x)
```

Arguments

x (any)
Object to check.

Value

TRUE if x is a valid non-empty hexadecimal string, FALSE otherwise.

Examples

```
is_hex("deadbeef")
```

is_hostname	<i>Check if an argument is a hostname string</i>
-------------	--

Description

Check if an argument is a hostname string

Usage

```
is_hostname(x)
```

Arguments

x (any)
Object to check.

Value

TRUE if x is a valid hostname string, FALSE otherwise.

References

<https://en.wikipedia.org/wiki/Hostname>

Examples

```
is_hostname("example.com")
```

is_iban	<i>Check if an argument is a valid IBAN string</i>
---------	--

Description

Validates IBAN format including MOD-97-10 check digit verification (ISO/IEC 7064).

Usage

```
is_iban(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid IBAN string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/International_Bank_Account_Number

Examples

```
is_iban("GB29NWBK60161331926819")
```

is_ipv4	<i>Check if an argument is an IPv4 address string</i>
---------	---

Description

Check if an argument is an IPv4 address string

Usage

```
is_ipv4(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid IPv4 address string, FALSE otherwise.

Examples

```
is_ipv4("192.168.1.1")
```

is_ipv6*Check if an argument is an IPv6 address string*

Description

Validates full, compressed (::) and IPv4-embedded (::ffff:192.168.1.1) forms. Zone IDs (e.g. %eth0) are not supported.

Usage

```
is_ipv6(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid IPv6 address string, FALSE otherwise.

Examples

```
is_ipv6("2001:0db8:85a3:0000:0000:8a2e:0370:7334")
is_ipv6("::1")
```

is_isbn*Check if an argument is an ISBN string*

Description

Validates ISBN-10 and ISBN-13 formats, including check digit verification. Hyphens and spaces are allowed as separators.

Usage

```
is_isbn(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ISBN string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/International_Standard_Book_Number

Examples

```
is_isbn("978-0-306-40615-7")
```

is_isin	<i>Check if an argument is a valid ISIN string</i>
---------	--

Description

Validates ISIN (International Securities Identification Number) format including Luhn check digit verification.

Usage

```
is_isin(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ISIN string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/International_Securities_Identification_Number

Examples

```
is_isin("US0378331005")
```

is_iso_date	<i>Check if an argument is an ISO 8601 date string</i>
-------------	--

Description

Validates the YYYY-MM-DD format with calendar correctness, including leap year handling.

Usage

```
is_iso_date(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ISO 8601 date string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/ISO_8601

Examples

```
is_iso_date("2024-01-15")
is_iso_date("2024-02-30")
```

is_iso_datetime	<i>Check if an argument is an ISO 8601 datetime string</i>
-----------------	--

Description

Validates the YYYY-MM-DDTHH:MM:SS[.sss] format with calendar correctness, including leap year handling. The timezone designator is optional and can be Z or an offset like +05:30.

Usage

```
is_iso_datetime(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ISO 8601 datetime string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/ISO_8601

Examples

```
is_iso_datetime("2024-01-15T12:00:00Z")
is_iso_datetime("2024-01-15T12:00:00+05:30")
is_iso_datetime("2024-01-15T12:00:00")
```

is_issn	<i>Check if an argument is an ISSN string</i>
---------	---

Description

Validates ISSN format including check digit verification.

Usage

```
is_issn(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ISSN string, FALSE otherwise.

References

<https://www.loc.gov/issn/check.html>

Examples

```
is_issn("0378-5955")
```

is_lei	<i>Check if an argument is a valid LEI string</i>
--------	---

Description

Validates LEI (Legal Entity Identifier) format including MOD-97-10 check digit verification (ISO/IEC 7064).

Usage

```
is_lei(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid LEI string, FALSE otherwise.

References

https://en.wikipedia.org/wiki/Legal_Entity_Identifier <https://www.govinfo.gov/content/pkg/CFR-2016-title12-vol8/xml/CFR-2016-title12-vol8-part1003-appC.xml>

Examples

```
is_lei("7H6GLXDRUGQFU57RNE97")
```

is_mac	<i>Check if an argument is a MAC address string</i>
--------	---

Description

Check if an argument is a MAC address string

Usage

```
is_mac(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid MAC address string, FALSE otherwise.

Examples

```
is_mac("00:1B:44:11:3A:B7")
```

is_md5	Check if an argument is an MD5 hash string
--------	--

Description

Check if an argument is an MD5 hash string

Usage

```
is_md5(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid MD5 hash string, FALSE otherwise.

Examples

```
is_md5("d41d8cd98f00b204e9800998ecf8427e")
```

is_mime	Check if an argument is a MIME type string
---------	--

Description

Validates the type/subtype format where the top-level type must be one of the IANA-registered types: application, audio, font, image, message, model, multipart, text, or video.

Usage

```
is_mime(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid MIME type string, FALSE otherwise.

References

<https://www.iana.org/assignments/media-types/media-types.xhtml>

Examples

```
is_mime("application/json")
is_mime("text/plain")
```

is_nanoid

Check if an argument is a Nano ID string

Description

Check if an argument is a Nano ID string

Usage

```
is_nanoid(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid Nano ID string, FALSE otherwise.

Examples

```
is_nanoid("V1StGXR8_Z5jdHi6B-myT")
```

is_orcid	<i>Check if an argument is an ORCID string</i>
----------	--

Description

Validates ORCID format including ISO/IEC 7064:2003, MOD 11-2 check digit verification.

Usage

```
is_orcid(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ORCID string, FALSE otherwise.

References

<https://support.orcid.org/hc/en-us/articles/360006897674-Structure-of-the-ORCID-Identifier>

Examples

```
is_orcid("0000-0002-1825-0097")
```

is_sedol	<i>Check if an argument is a valid SEDOL string</i>
----------	---

Description

Validates SEDOL format including weighted check digit verification.

Usage

```
is_sedol(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid SEDOL string, FALSE otherwise.

References

<https://en.wikipedia.org/wiki/SEDOL>

Examples

```
is_sedol("0263494")
```

is_semver	<i>Check if an argument is a semantic versioning string</i>
-----------	---

Description

Validates semantic versioning 2.0.0 format, including optional pre-release and build metadata. Uses the official recommended regex from <https://semver.org/>.

Usage

```
is_semver(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid semver string, FALSE otherwise.

References

<https://semver.org/>

Examples

```
is_semver("1.0.0")
```

is_sha256	Check if an argument is a SHA-256 hash string
-----------	---

Description

Check if an argument is a SHA-256 hash string

Usage

```
is_sha256(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid SHA-256 hash string, FALSE otherwise.

Examples

```
is_sha256("e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855")
```

is_ulid	Check if an argument is a ULID string
---------	---------------------------------------

Description

Check if an argument is a ULID string

Usage

```
is_ulid(x)
```

Arguments

x	(any) Object to check.
---	---------------------------

Value

TRUE if x is a valid ULID string, FALSE otherwise.

References

<https://github.com/ulid/spec>

Examples

```
is_ulid("01ARZ3NDEKTSV4RRFFQ69G5FAV")
```

is_url*Check if an argument is a URL string*

Description

Check if an argument is a URL string

Usage

```
is_url(x)
```

Arguments

x (any)
Object to check.

Value

TRUE if x is a valid URL string, FALSE otherwise.

Examples

```
is_url("https://example.com")
```

is_uuid*Check if an argument is a UUID string*

Description

Check if an argument is a UUID string

Usage

```
is_uuid(x)
```

Arguments

x (any)
Object to check.

Value

TRUE if x is a valid UUID string, FALSE otherwise.

Examples

```
is_uuid("550e8400-e29b-41d4-a716-446655440000")
```

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