Package 'edgar'

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Type Package

Title Tool for the U.S. SEC EDGAR Retrieval and Parsing of Corporate Filings

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Imports R.utils, tm, XML, stringr, stringi, qdapRegex, httr

Description In the USA, companies file different forms with the U.S. Securities and Exchange Commission (SEC) through EDGAR (Electronic Data Gathering, Analysis, and Retrieval system). The EDGAR database automated system collects all the different necessary filings and makes it publicly available. This package facilitates retrieving, storing, searching, and parsing of all the available filings on the EDGAR server. It downloads filings from SEC server in bulk with a single query. Additionally, it provides various useful functions: extracts 8-K triggering events, extract ``Business (Item 1)" and ``Management's Discussion and Analysis(Item 7)" sections of annual statements, searches filings for desired keywords, provides sentiment measures, parses filing header information, and provides HTML view of SEC filings.

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Contents

get8KItems

	15
searchFilings	. 13
LMMasterDictionary	
getSentiment	. 11
getMgmtDisc	. 10
getMasterIndex	. 9
getFilingsHTML	. 8
getFilings	. 7
getFilingInfo	. 6
getFilingHeader	. 5
getDailyMaster	. 4
getBusinDescr	. 3

Index

get8KItems

Retrieves Form 8-K event information

Description

get8KItems retrieves Form 8-K event information of firms based on CIK numbers and filing year.

Usage

get8KItems(cik.no, filing.year, useragent)

Arguments

cik.no	vector of CIK(s) in integer format. Suppress leading zeroes from CIKs
filing.year	vector of four digit numeric year
useragent	Should be in the form of "YourName Contact@domain.com"

Details

get8KItems function takes firm CIK(s) and filing year(s) as input parameters from a user and provides information on the Form 8-K triggering events along with the firm filing information. The function searches and imports existing downloaded 8-K filings in the current directory; otherwise it downloads them using getFilings function. It then reads the 8-K filings and parses them to extract events information. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function returns dataframe with Form 8-K events information along with CIK number, company name, date of filing, and accession number.

getBusinDescr

Examples

Not run:

End(Not run)

getBusinDescr *Retrieves business descriptions from annual statements*

Description

getBusinessDescr retrieves business description section from annual statements based on CIK number(s) and filing year(s).

Usage

getBusinDescr(cik.no, filing.year, useragent)

Arguments

cik.no	vector of firm CIK(s) in integer format. Suppress leading zeroes from a CIK
	number. cik.no = 'ALL' conisders all the CIKs.
filing.year	vector of four digit numeric year
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getBusinDescr function takes firm CIK(s) and filing year(s) as input parameters from a user and provides "Item 1" section extracted from annual statements along with filing information. The function imports annual filings (10-K statements) downloaded via getFilings function; otherwise, it automates the downloading process if not already been downloaded. It then reads the downloaded statements, cleans HTML tags, and parse the contents. This function automatically creates a new directory with the name "edgar_BusinDescr" in the current working directory and saves scrapped business description sections in this directory. It considers "10-K", "10-K405", "10KSB", and "10KSB40" form types as annual statements. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function saves scrapped business description section from annual filings in "Business descriptions text" directory created in the current working directory. The output dataframe contains filing information and parsing status. For a successful extraction of this section, 'extract.status' column returns 1, other return 0 for failed extraction.

Examples

Not run:

getDailyMaster Retrieves daily master index

Description

getDailyMaster retrieves daily master index from the U.S. SEC EDGAR server.

Usage

getDailyMaster(input.date, useragent)

Arguments

input.date	in character format 'mm/dd/YYYY'.
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getDailyMaster function takes date as an input parameter from a user, and downloads master index for the date from the U.S. SEC EDGAR server www.sec.gov/Archives/edgar/daily-index/. It strips headers and converts this daily filing information into dataframe format. Function creates new directory 'edgar_DailyMaster' into working directory to save these downloaded daily master index files in Rda format. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function returns filings information in a dataframe format.

getFilingHeader

Examples

Not run:

```
output <- getDailyMaster('08/09/2016', useragent)</pre>
```

End(Not run)

getFilingHeader Scrape EDGAR filing header information

Description

getFilingHeader Extract EDGAR filing header information

Usage

getFilingHeader(cik.no, form.type, filing.year, useragent)

Arguments

cik.no	vector of CIK(s) in integer format. Suppress leading zeroes from CIKs. cik.no = 'ALL' conisders all the CIKs.
form.type	character vector containing form type to be downloaded. form.type = 'ALL' if need to download all forms.
filing.year	vector of four digit numeric year
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getFilingHeader function takes CIK(s), form type(s), and year(s) as input parameters. The function first imports available downloaded filings in local working directory 'edgar_Filings' created by getFilings function; otherwise, it automatically downloads the filings which are not already been downloaded. It then parses all the important header information from filings. The function returns a dataframe with filing and header information. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgardata.

Value

Function returns dataframe containing CIK number, company name, date of filing, accession number, confirmed period of report, fiscal year end, Standard Industrial Classification (SIC) code, Internal Revenue Code (IRS) code, state of incorporation, business address, and mailing address. If a filing contains multiple filers then output will contain header information on all the filers in multiple rows.

Examples

Not run:

End(Not run)

getFilingInfo Retrieves filing information of a firm

Description

getFilingInfo retrieves filing information of a firm based on its name or cik.

Usage

getFilingInfo(firm.identifier, filing.year, quarter, form.type, useragent)

Arguments

firm.identifie	r
	CIK of a firm in integer format or full/partial name of a firm in character format. Suppress leading zeroes from CIKs.
filing.year	vector of integer containing filing years.
quarter	vector of one digit integer quarter number. By default, it is considered as all the quarters, quarter $=c(1, 2, 3, 4)$.
form.type	vector of form types in character format. By default, it is kept as all the available form types.
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getFilingInfo function takes firm identifier (name or cik), filing year(s), quarter(s), and form type as input parameters from a user and provides filing information for the firm. The function automatically downloads master index for the input year(s) and the quarter(s) using getMasterIndex function if it is not already been downloaded in the current working directory. By default, information of all the form types filed in all the quarters of the input year by the firm will be provided by this function. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function returns dataframe with filing information.

getFilings

Examples

Not run:

getFilings Retrieves EDG

Retrieves EDGAR filings from SEC server

Description

getFilings retrieves EDGAR filings for a specific CIKs, form-type, filing year and quarter of the filing.

Usage

```
getFilings(cik.no, form.type, filing.year, quarter, downl.permit, useragent)
```

Arguments

cik.no	vector of CIK number of firms in integer format. Suppress leading zeroes from CIKs. Keep cik.no = 'ALL' if needs to download for all CIKs.	
form.type	character vector containing form type to be downloaded. form.type = 'ALL' if need to download all forms.	
filing.year	vector of four digit numeric year	
quarter	vector of one digit quarter integer number. By deault, it is kept as c(1,2,3,4).	
downl.permit	"y" or "n". The default value of downl.permit is "n". It asks a user permission to download fillings. This permission helps the user to decide in case if numbe of filings are large. Setting downl.permit = "y" will not ask for user permission to download filings.	
useragent	Should be in the form of "YourName Contact@domain.com"	

Details

getFilings function takes CIKs, form type, filing year, and quarter of the filing as input. It creates new directory "edgar_Filings" to store all downloaded filings. All the filings will be stored in the current working directory. Keep the same current working directory for further process. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function downloads EDGAR filings and returns download status in dataframe format with CIK, company name, form type, date filed, accession number, and download status.

Examples

getFilingsHTML Get HTML view of EDGAR filings

Description

getFilingsHTML retrieves complete EDGAR filings and store them in HTML format for view.

Usage

getFilingsHTML(cik.no, form.type, filing.year, quarter, useragent)

Arguments

cik.no	vector of CIK number of firms in integer format. Suppress leading zeroes from CIKs. Keep cik.no = 'ALL' if needs to download for all CIKs.	
form.type	character vector containing form type to be downloaded. form.type = 'ALL' if need to download all forms.	
filing.year	vector of four digit numeric year	
quarter	vector of one digit quarter integer number. By deault, it is kept as $c(1, 2, 3, 4)$.	
useragent	Should be in the form of "YourName Contact@domain.com"	

Details

getFilingsHTML function takes CIK(s), form type(s), filing year(s), and quarter of the filing as input. The function imports edgar filings downloaded via getFilings function; otherwise, it downloads the filings which are not already been downloaded. It then reads the downloaded filings, scraps filing text excluding exhibits, and saves the filing contents in 'edgar_FilingsHTML' directory in HTML format. The new directory 'edgar_FilingsHTML' will be automatically created by this function. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

getMasterIndex

Value

Function saves EDGAR filings in HTML format and returns filing information in dataframe format.

Examples

End(Not run)

getMasterIndex Retrieves quarterly master index

Description

getMasterIndex retrieves the quarterly master indexes from the U.S. SEC EDGAR server.

Usage

getMasterIndex(filing.year, useragent)

Arguments

filing.year	vector of integer containing filing years.
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getMasterIndex function takes filing year as an input parameter from a user, downloads quarterly master indexes from the US SEC server. www.sec.gov/Archives/edgar/full-index/. It then strips headers from the master index files, converts them into dataframe, and merges such quarterly dataframes into yearly dataframe, and stores them in Rda format. It has ability to download master indexes for multiple years based on the user input. This function creates a new directory 'edgar_MasterIndex' into current working directory to save these Rda Master Index. Please note, for all other functions in this package need to locate the same working directory to access these Rda master index files. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function downloads quarterly master index files and stores them into the mentioned directory.

Examples

```
## Not run:
useragent <- "YourName Contact@domain.com"
getMasterIndex(2006, useragent)
## Downloads quarterly master index files for 2006 and
## stores into yearly 2006master.Rda file.
getMasterIndex(c(2006, 2008), useragent)
## Downloads quarterly master index files for 2006 and 2008, and
## stores into 2006master.Rda and 2008master.Rda files.
## End(Not run)
```

getMgmtDisc

Retrieves management's discussion and analysis section

Description

getMgmtDisc retrieves "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" section of firms from annual statements based on CIK number and filing year.

Usage

getMgmtDisc(cik.no, filing.year, useragent)

Arguments

cik.no	vector of firm CIK numbers in integer format. Suppress leading zeroes from CIKs.
filing.year	vector of four digit numeric year
useragent	Should be in the form of "YourName Contact@domain.com"

Details

getMgmtDisc function takes firm CIK(s) and filing year(s) as input parameters from a user and provides "Item 7" section extracted from annual statements along with filing information. The function imports annual filings downloaded via getFilings function; otherwise, it downloads the filings which are not already been downloaded. It then reads, cleans, and parse the required section from the filings. It creates a new directory with the name "edgar_MgmtDisc" in the current working directory to save scrapped "Item 7" sections in text format. It considers "10-K", "10-K405", "10KSB", and "10KSB40" form types as annual statements. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgardata.

getSentiment

Value

Function saves scrapped "Item 7" section from annual filings in "MD&A section text" directory present in the working directory. The output dataframe contains information on CIK number, company name, date of filing, and accession number. For a successful extraction of M&A section, 'extract.status' column returns 1, other return 0 for failed extraction.

Examples

End(Not run)

getSentiment Provides sentiment measures of EDGAR filings

Description

getSentiment computes sentiment measures of EDGAR filings

Usage

getSentiment(cik.no, form.type, filing.year, useragent)

Arguments

cik.no	vector of CIK number of firms in integer format. Suppress leading zeroes from CIKs. Keep cik.no = 'ALL' if needs to download for all CIKs.	
form.type	character vector containing form type to be downloaded. form.type = 'ALL' if need to download all forms.	
filing.year	vector of four digit numeric year	
useragent	Should be in the form of "YourName Contact@domain.com"	

Details

getSentiment function takes CIK(s), form type(s), and year(s) as input parameters. The function first imports available downloaded filings in the local working directory 'edgar_Filings' created by getFilings function; otherwise, it automatically downloads the filings which are not already been downloaded. It then reads, cleans, and computes sentiment measures for these filings. The

function returns a dataframe with filing information and sentiment measures. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function returns dataframe containing CIK number, company name, date of filing, accession number, and various sentiment measures. This function takes the help of Loughran-McDonald (L&M) sentiment dictionaries (https://sraf.nd.edu/loughranmcdonald-master-dictionary/) to compute sentiment measures of a EDGAR filing. Following are the definitions of the text characteristics and the sentiment measures:

file.size = The filing size of a complete filing on the EDGAR server in kilobyte (KB).

word.count = The total number of words in a filing text, excluding HTML tags and exhibits text.

unique.word.count = The total number of unique words in a filing text, excluding HTML tags and exhibits text.

stopword.count = The total number of stop words in a filing text, excluding exhibits text.

char.count = The total number of characters in a filing text, excluding HTML tags and exhibits text.

complex.word.count = The total number of complex words in the filing text. When vowels (a, e, i, o, u) occur more than three times in a word, then that word is identified as a complex word.

lm.dictionary.count = The number of words in the filing text that occur in the Loughran-McDonald (LM) master dictionary.

lm.negative.count = The number of LM financial-negative words in the document.

lm.positive.count = The number of LM financial-positive words in the document.

lm.strong.modal.count = The number of LM financial-strong modal words in the document.

lm.moderate.modal.count = The number of LM financial-moderate Modal words in the document.

lm.weak.modal.count = The number of LM financial-weak modal words in the document.

lm.uncertainty.count = The number of LM financial-uncertainty words in the document.

lm.litigious.count = The number of LM financial-litigious words in the document.

hv.negative.count = The number of words in the document that occur in the 'Harvard General Inquirer' Negative word list, as defined by LM.

Examples

```
## Not run:
```

```
## Returns dataframe with sentiment measures of firms with CIKs
## 1000180 and 38079 filed in year 2006 for form type '10-K'.
```

```
senti.df <- getSentiment(cik.no = '38079', form.type = c('10-K', '10-Q'),</pre>
```

```
filing.year = c(2005, 2006), useragent)
```

End(Not run)

LMMasterDictionary Loughran and McDonald Sentiment Master Dictionary

Description

The data contains sentiments word lists.

Details

The sentiment categories are: negative, positive, uncertainty, litigious, modal, and Harvard IV. Modal words are flagged as 1, 2 or 3, with 1 =Strong Modal, 2 = Moderate Modal, and 3 = Weak Modal.

Source

Website: https://sraf.nd.edu/loughranmcdonald-master-dictionary/

References

Tim Loughran and Bill McDonald, 2011, When is a Liability not a Liability? Textual Analysis, Dictionaries, and 10-Ks, Journal of Finance, 66:1, 35-65.

Andriy Bodnaruk, Tim Loughran and Bill McDonald, 2015, Using 10-K Text to Gauge Financial Constraints, Journal of Financial and Quantitative Analysis, 50:4, 1-24.

Tim Loughran and Bill McDonald, 2016, Textual Analysis in Accounting and Finance: A Survey, Journal of Accounting Research, 54:4,1187-1230.

searchFilings	Search EDGAR filings for specific keywords

Description

searchFilings Search EDGAR filings for specific keywords

Usage

```
searchFilings(cik.no, form.type, filing.year, word.list, useragent)
```

Arguments

cik.no	vector of CIK number of firms in integer format. Suppress leading zeroes from CIKs. Keep cik.no = 'ALL' if needs to download for all CIK's.
form.type	character vector containing form type to be downloaded. form.type = 'ALL' if need to download all forms.
filing.year	vector of four digit numeric year
word.list	vector of words to search in the filing
useragent	Should be in the form of "YourName Contact@domain.com"

Details

searchFilings function takes search keyword vector, CIK(s), form type(s), and year(s) as input parameters. The function first imports available downloaded filings in the local woking directory 'edgar_Filings' created by getFilings function; otherwise, it automatically downloads the filings which are not already been downloaded. It then reads the filings and searches for the input keywords. The function returns a dataframe with filing information and the number of keyword hits. Additionally, it saves the search information with surrounding content of search keywords in HTML format in the new directory "edgar_searchFilings". These HTML view of search results would help the user to analyze the search strategy and identify false positive hits. User must follow the US SEC's fair access policy, i.e. download only what you need and limit your request rates, see www.sec.gov/os/accessing-edgar-data.

Value

Function returns dataframe containing filing information and the number of word hits based on the input phrases. Additionally, this function saves search information with surrounding content of search keywords in HTML file in directory "Keyword search results".

Examples

Not run:

End(Not run)

Index

* data LMMasterDictionary, 13 get8KItems, 2 getBusinDescr, 3 getDailyMaster, 4 getFilingHeader, 5 getFilings.2, 3, 5, 7, 8, 10, 11, 14 getFilingsHTML, 8 getMasterIndex, 6, 9 getMgmtDisc, 10 getSentiment, 11

LMMasterDictionary, 13

searchFilings, 13