Reading: CheatSheet - Creating Database Objects and Querying Data from R

Skills Network

Command	Syntax	Description	Example
sqlQuery()	`sqlQuery(conn, _QUERY_, errors=FALSE)`	`sqlQuery` function submits an SQL query that is passed as the second parameter to an ODBC database connection, and retrieve the results. conn - connection _QUERY_ - The query you want to execute on the database errors - logical: if true halt and display error, else return -1.	**Code** `sqlQuery(conn, "SELECT COUNT(B_ID) FROM BOARD;")` **Output** `sqlQuery(conn, "SELECT COUNT(B_ID) FROM BOARD;")` A data.frame: 1 × 1 1 | 76
sqlTables()	`sqlTables(conn, schema = schemaname)`	`sqlTables` function list the table-like objects accessible from an ODBC connection.	**Code** `sqlTables(conn)` **Output** `sqlTables(conn)` A data.frame: 476 × 5 TABLE_CAT, TABLE_SCHEM, TABLE_NAME, TABLE_TYPE, REMARKS 1 | SYSPUBLIC | DUAL | ALIAS 2 | SYSIBM | SYSATTRIBUTES | SYSTEM TABLE 3 | SYSIBM | SYSAUDITEXCEPTIONS | SYSTEM TABLE 4 | SYSIBM | SYSAUDITPOLICIES | SYSTEM TABLE 5 | SYSIBM | SYSAUDITUSE | SYSTEM TABLE 6 | SYSIBM | SYSBUFFERPOOLNODES | SYSTEM TABLE 7 | SYSIBM | SYSBUFFERPOOLS | SYSTEM TABLE 8 | SYSIBM | SYSCHECKS | SYSTEM TABLE 9 | SYSIBM | SYSCODEPROPERTIES | SYSTEM TABLE
sqlTypeInfo()	**Code** `sqlTypeInfo(conn)`	`sqlTypeInfo` function request information about column types in an ODBC database.	**Code** `sqlTypeInfo(conn)` **Output** `sqlTypeInfo(conn)` TYPE_NAME, DATA_TYPE, COLUMN_SIZE, LITERAL_PREFIX, LITERAL_SUFFIX, CREATE_PARAMS, NULLABI 1 | XML | -370 | 0 2 | DECFLOAT | -360 | 34 | PRECISION 3 | CLOB | -99 | 2147483647 | ' | ' | LENGTH 4 | BLOB | -98 | 2147483647 | BLOB(X' | ') | LENGTH 5 | LONG VARCHAR FOR BIT DATA | -4 | 32700 | ' | ' | LENGTH 6 | VARBINARY | -3 | 32672 | VARBINARY(X' | ') | LENGTH 7 | BINARY | -2 | 255 | BINARY(X' | ') | LENGTH
odbcGetInfo()	**Code** `odbcGetInfo(conn)`	`odbcGetInfo` function requests information on an ODBC connection.	**Code** `odbcGetInfo(conn)` **Output** `odbcGetInfo(conn)` **DBMS_Name:** 'DB2/LINUXX8664' **DBMS_Ver:** '11.01.0404' **Driver_ODBC_Ver:** '03.51' **Data_Source_Name:** '' **Driver_Name:** 'libdb2.a' **Driver_Ver:** '11.05.0600' **ODBC_Ver:** '03.52' **Server_Name:** 'DB2'

nrow	`nrow(x)`	`nrow` returns the number of rows present in x.	**Code**
			`ma <- matrix(1:12, 3, 4)`
			`nrow(ma)`
			Output
			`ma <- matrix(1:12, 3, 4)`
			`nrow(ma)`
			3

ncol	`ncol(x)`	`ncol` returns the number of columns present in x.	**Code**
			`ma <- matrix(1:12, 3, 4)`
			`ncol(ma)`
			Output
			`ma <- matrix(1:12, 3, 4)`
			`ncol(ma)`
			4

paste	`paste(..., sep = " ", collapse = NULL)`	`paste` concatenates vectors after converting to them character.	**Code**
			`secquery <- paste("select s.enrollment as ENROLLMENT from school s, board b where b.b_name = 'Toronto DSB' and b.b_id=s.b_id and s.level = 'Secondary' order by enrollment desc")`
			Output
			`secquery <- paste("select s.enrollment as ENROLLMENT from school s, board b where b.b_name = 'Toronto DSB' and b.b_id=s.b_id and s.level = 'Secondary' order by enrollment desc")`
			`secdf <- sqlQuery(conn, secquery)`
			`head(secdf)`
			A data.frame: 6 × 1
			ENROLLMENT
			<int>
			1 NA
			2 NA
			3 0
			4 0
			5 2209
			6 1993

cat	`cat(...,file = “”, sep = ” “, fill = FALSE, labels = NULL, append = FALSE)`	`cat` Returns the concatenated objects passed as parameters	**Code**
			`cat('one',2,'three',4,'five') #one 2 three 4 five`
			Output
			`cat('one',2,'three',4,'five')`
			one 2 three 4 five

odbcGetErrMsg()	`odbcGetErrMsg(conn)`	`odbcGetErrMsg` returns a (possibly zero-length) character vector of pending messages.	

iconv()	`iconv(x, from = "", to = "", sub = NA, mark = TRUE, toRaw = FALSE)`	`iconv` uses system facilities to convert a character vector between encodings: the 'i' stands for internationalization.	**Code**
			`x <- "fa\xE7ile"`
			`iconv(x, "latin1", "ASCII", "?")`
			Output
			`odbcGetErrMsg(conn)`
			`x <- "fa\xE7ile"`
			`iconv(x, "latin1", "ASCII", "?")`
			'fa?ile'

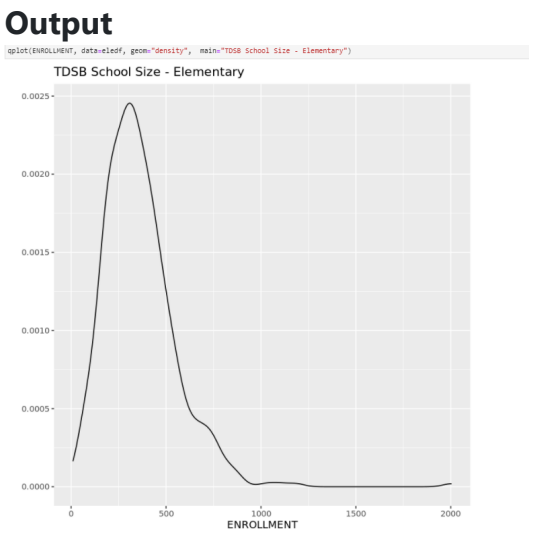
sqlSave()	`sqlSave(conn, dat, tablename = NULL, append = FALSE,rownames = TRUE, colnames= FALSE, verbose = FALSE,safer = TRUE, addPK = FALSE, typeInfo, varTypes,fast = TRUE, test = FALSE, nastring = NULL)`	`sqlSave` writes or updates a table in an ODBC database.	**Code** `sqlSave(conn, boarddf, "BOARD", append=TRUE, fast=FALSE, rownames=FALSE, colnames=FALSE, verbose=FALSE)` **Output**
sqlFetch()	`sqlFetch(conn, sqtable, ..., colnames = FALSE, rownames = TRUE)`	`sqlFetch` Reads some or all of a table from an ODBC database into a dataframe.	**Code** `sqlFetch(conn, "BOARD")` **Output**
qplot()	`qplot(x,y,...,data,facets = NULL,margins = FALSE,geom = "auto", xlim = c(NA, NA),ylim = c(NA, NA),log = "",main = NULL,xlab = NULL,ylab = NULL,asp = NA, stat = NULL, position = NULL)`	`qplot()` is a shortcut designed to be familiar if you're used to base plot(). It's a convenient wrapper for creating a number of different types of plots using a consistent calling scheme.	**Code** `qplot(ENROLLMENT, data=eledf, geom="density", main="TDSB School Size - Elementary")` **Output**

	1	2	3	4
1	B28010	Algoma DSB	Public	English
2	B67202	Algonquin and Lakeshore CDSB	Roman Catholic	English
3	B66010	Avon Maitland DSB	Public	English
4	B66001	Bluewater DSB	Public	English
5	B67164	Brant Haldimand Norfolk CDSB	Roman Catholic	English
6	B67008	Bruce-Grey CDSB	Roman Catholic	English
7	B67172	CDSB of Eastern Ontario	Roman Catholic	English
8	B66303	CS Viamonde	Public	French
9	B67300	CSD des coles catholiques du Sud-Ouest	Roman Catholic	French
10	B28118	CSD du Grand Nord de l'Ontario	Public	French
11	B28100	CSD du Nord-Est de l'Ontario	Public	French
12	B67318	CSDC Centre-Sud	Roman Catholic	French
13	B29114	CSDC Franco-Nord	Roman Catholic	French
14	B67326	CSDC de l'Est ontarien	Roman Catholic	French

```
boarddb <- sqlFetch(conn, "BOARD")
head(boarddb)
```

A data.frame: 6 × 4

	B_ID	B_NAME	TYPE	LANGUAGE
	<fct>	<fct>	<fct>	<fct>
1	B28010	Algoma DSB	Public	English
2	B67202	Algonquin and Lakeshore CDSB	Roman Catholic	English
3	B66010	Avon Maitland DSB	Public	English
4	B66001	Bluewater DSB	Public	English
5	B67164	Brant Haldimand Norfolk CDSB	Roman Catholic	English
6	B67008	Bruce-Grey CDSB	Roman Catholic	English



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Changelog

Date	Version	Changed by	Change Description
2020-08-12	1.1	DM Naidu	Added output images
2020-07-31	1.0	Malika Singla	Initial Version