Cheatography

Extending Ruby with C - Part 2 Cheat Sheet

by Ryan Johnson (CITguy) via cheatography.com/138/cs/249/

Ruby C - Common Methods

int **rb_respond_to** (VALUE self, ID method)
=> 0|nonzero

VALUE **rb_thread_create**(VALUE (*func)(), void *data)

Runs *func* in new thread, passing *data* as an arg.

VALUE rb_obj_is_instance_of(VALUE obj, VALUE klass) => Qtrue|Qfalse

VALUE **rb_obj_is_kind_of**(VALUE obj, VALUE klass)

Returns Qtrue if *klass* is superclass of *obj* class.

Ruby C - Exceptions

void rb_raise(V exception, const char *fmt, ...)

Raises *exception*. *fmt* and args used like in printf.

void rb_fatal(const char *fmt, ...)

Raises Fatal exception, terminating process. No rescue blocks called, but ensure blocks will be called. *fmt* and args used like in printf.

void rb_bug(const char *fmt, ...)

Terminates process immediately--no handlers of any sort called. *fmt* and args are interpreted like printf. *Call only if a fatal bug has been exposed.*

void rb_sys_fail (const char *msg)

Raises a platform-specific exception corresponding to last known system error, with the given *msg*.

V **rb_rescue**(V (*body)(), V args, V (*rescue) (), V rargs)

Executes body with given *args*. If StandardError exception raised, execute *rescue* with given *rargs*.

Ruby C - Exceptions (cont)

V rb_ensure(V (*body)(), V args, V (*rescue) (), V eargs)

Executes body with given args. Whether or not an exception is raised, execute ensure with given rargs after body has completed.

V rb_protect(V (*body)(), V args, int *result)

Executes *body* with given *args* and returns nonzero in *result* if any exception raised.

void rb_notimplement()

Raises NotImpError exception to indicate enclosed function is NYI, or not available on platform.

void rb_exit(int status)

Exits Ruby with given *status*. Raises SystemExit exception and calls registered exit functions/finalizers.

void rb_warn(const char *fmt, ...)

Unconditionally issues warning message to standard error. *fmt* and args used like in printf.

void rb_warning(const char *fmt, ...)

Conditionally issues a warning message to standard error if Ruby was invoked with the - w flag. *fmt* and args used like in printf.

V = VALUE

Ruby C - Array Methods

VALUE rb_ary_new()

Returns new Array with default size.

VALUE **rb_ary_new2**(long length)

Returns new Array of given length.

VALUE rb_ary_new3(long length, ...)

Returns new Array of given *length* and populated with remaining arguments.

VALUE **rb_ary_new4**(long length, VALUE *values)

Returns new Array of given *length* and populated with C array *values*.

Published 15th February, 2012. Last updated 26th June, 2014. Page 1 of 2. Ruby C - Array Methods (cont)

void **rb_ary_store**(VALUE self, long index, VALUE value)

Stores value at index in array self.

VALUE **rb_ary_push**(VALUE self, VALUE value)

VALUE rb ary pop(VALUE self)

VALUE rb ary shift(VALUE self)

VALUE **rb_ary_unshift**(VALUE self, VALUE value)

VALUE rb_ary_entry (VALUE self, long index)

Returns array self's element at index.

Ruby C - Iterators

void rb_iter_break()

Breaks out of enclosing iterator block.

 $VALUE \ \textbf{rb_each}(VALUE \ obj)$

Invokes 'each' method of the given obj.

VALUE rb_yield(VALUE arg)

Transfers execution to iterator block in the current context, passing *arg* as an argument. Multiple values may be passed in an array.

int rb_block_given_p()

Nonzero if yield would execute a block in current context--that is, if a code block was passed to current method and is available to be called.

VALUE rb_iterate(VALUE (*method)(),
VALUE args, VALUE (*block)(), VALUE arg2)

Invokes *method* with *args* and block *block*. Yield from that method will invoke *block* with arg given to yield and second arg *arg2*.

VALUE **rb_catch** (const char *tag, VALUE (*proc)(), VALUE value)

Equivalent to Ruby catch.

void rb_throw(const char *tag, VALUE value)

Equivalent to Ruby throw.



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Ruby C - Hash Methods

VALUE rb_hash_new()

VALUE **rb_hash_aref**(VALUE self, VALUE key)

Returns element corresponding to *key* in *self*.

VALUE **rb_hash_aset**(VALUE self, VALUE key, VALUE value)

Sets value for *key* to *value* in *self*. Returns *self*.

Ruby C - Accessing Variables

V rb iv get(V obj, char *name)

Returns instance var *name* (must specify "@" prefix) from given *obj*.

V rb_ivar_get (V obj, ID name)

Returns instance var name from given obj.

V rb_iv_set(V obj, char *name, V value) => value

Sets instance var *name* (must specify "@" prefix) in given *obj* to *value*.

V rb_ivar_set(V obj, ID name, V value)

Sets instance var name in obj to value.

V rb_gv_set(const char *name, V value) => value

Sets global var name ("\$" prefix optional) to

V rb_gv_get(const char *name)

Returns global var *name* ("\$" prefix optional).

void rb_cvar_set(V class, ID name, V val)

Sets class var name in class to value.

V rb_cvar_get(V class, ID name)

Returns class var name from given class.

intrb cvar defined(V class, ID name)

Qtrue if class var name has been defined for class.

void rb_cv_set(V class, const char *name, V
val)

Sets class var name (must specify "@@" prefix) in given class to value.

Ruby C - Accessing Variables (cont)

V rb_cv_get(V class, const char *name)

Returns class var *name* (must specify a "@@" prefix) from given *class*.

V = VALUE

Ruby C - String Methods

VALUE **rb_str_new**(const char *src, long length)=>String

Initialized with length chars from src.

VALUE **rb_str_new2**(const char *src) => String

Initialized with null-terminated C string src.

VALUE rb_str_dup(VALUE str) => String

Duplicated from str.

VALUE **rb_str_cat**(VALUE self, const char *src, long length) => self

Concatenates *length* chars from *src* onto *self*.

VALUE **rb_str_concat**(VALUE self, VALUE other) => self

Concatenates other onto String self.

VALUE **rb_str_split**(VALUE self, const char *delim)

Returns array of String objects created by splitting *self* on *delim*.



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