InfoLib

at your fingertips

A quick reference to the Inform Library

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Version 1.4 (June 2001)

The road to brevity is via solecism and through imprecision – refer to the *Inform Designer's Manual* for the definitive story.

•• Library objects ••••••••••

compass

A container object holding the twelve direction objects d_obj e_obj in_obj n_obj ne_obj nw_obj out_obj s obj se obj sw obj u obj w obj.

LibrarvMessages

If defined (between Includes of Parser and VerbLib), changes standard library messages:

selfobj

The default player object. Avoid: use instead the player variable, which usually refers to selfobj.

thedark

A pseudo-room which becomes the location when there is no light (although the player object is not moved there).

•• Library constants •••••••••

In addition to the standard constants true (1), false (0) and nothing (0), the Library defines NULL (-1) for an *action*, *property* or *pronoun* whose current value is undefined.

Some constants control features rather than represent values. ${\tt AMUSING\ PROVIDED}$

Activates the Amusing entry_point.

DEATH MENTION UNDO

Offers "UNDO the last move" when the game is over. $\ensuremath{\mathsf{DEBUG}}$

Activates the debug commands.

Headline = "string"

Mandatory: the game style, copyright information, etc. MANUAL PRONOUNS

Pronouns reflect only objects mentioned by the player. MAX CARRIED = expr

Maximum number of direct possessions that the player can carry (default 100).

 $MAX_SCORE = expr$

Maximum game score (default 0).

MAX TIMERS = expr

Maximum number of active timers/daemons (default 32).

The "OBJECTS" and "PLACES" verbs are not allowed.

NUMBER TASKS = expr

Number of scored tasks to be performed (default 1). OBJECT SCORE = expr

For taking a scored object for the first time (default 4). ROOM SCORE = expr

For visiting a scored room for the first time (default 5). SACK OBJECT = object

A container object where the game places held objects. Story = "string"

Mandatory: the name of the story.

TASKS PROVIDED

Activates the task scoring system.

USE MODULES

Activates linking with pre-compiled library modules. WITHOUT DIRECTIONS

De-activates standard compass directions (bar "IN" and "OUT"). Place alternative directions in the compass.

•• Library variables ••••••••

action

The current action.

actor

The target of an instruction: the player, or an NPC. deadflag

Normally 0: 1 indicates a regular death, 2 indicates that the player has won, 3 or more denotes a user-defined end.

 $Used\ by\ invent\ and\ {\tt list_together}\ properties.$

keep_silent

Normally false; true makes most group 2 actions silent. location

The player's current room; unless that's dark, when it contains thedark, real_location contains the room.

notify mode

Normally true: false remains silent when score changes.

The primary focus object for the current action. player

The object acting on behalf of the human player.

real location

The player's current room when in the dark.

score

The current score.

second

The secondary focus object for the current action. self

The object which received a message.

(Note: a run-time variable, not a compile-time constant.) sender

The object which sent a message (or nothing).

task scores

A byte array holding scores for the task scoring system. the time

The game's clock, in minutes 0..1439 since midnight.

The game's turn counter.

۸n

The input stream word number, counting from 1.

•• Library routines ••••••••••

Achieved(expr)

A scored task has been achieved.

AfterRoutines()

In a group 2 action, controls output of 'after' messages.

AllowPushDir()

An object can be pushed from one location to another.

Banner()

Prints the game banner.

ChangePlayer(object, flag)

Player assumes the persona of the *object*. If the optional *flag* is true, room descriptions include "(as *object*)".

DictionaryLookup(byte array, length)

Returns address of word in dictionary, or 0 if not found.

DrawStatusLine()

Outputs the status line.

GetGNAOfObject(object)

Returns gender-number-animation 0..11 of the *object*.

HasLightSource(object)

Returns true if the *object* has light.

IndirectlyContains(parent_object,object)

Returns true if *object* is currently a child or grand-child or great-grand-child... of the *parent_object*.

IsSeeThrough(object)

Returns true if light can pass through the *object*.

Locale(object, "string1", "string2")

Describes the contents of *object*, and returns their number. After objects with own paragraphs, the rest are listed preceded by *string1* or *string2*.

LoopOverScope(routine, actor)

Calls *routine(object)* for each *object* in scope. If the optional *actor* is supplied, that defines the scope.

LTI Insert(*expr*, *character*)

Inserts *character* into input buffer at position *expr*.

MoveFloatingObjects()

Adjusts positions of game's found_in objects.

NextWord()

Returns the next dictionary word in the input stream, incrementing wn by one. Returns false if the word is not in the dictionary, or if the input stream is exhausted.

NextWordStopped()

Returns the next dictionary word in the input stream, incrementing wn by one. Returns false if the word is not in the dictionary, -1 if the input stream is exhausted.

NounDomain(object1, object2, type)

Performs object parsing; see also ParseToken().

ObjectIsUntouchable(object, flag)

Tests if there is a barrier – a container object which is not open – between player and object. Unless the optional flag is true, outputs "You can't because ... is in the way". Returns true is a barrier is found, otherwise false.

OffersLight(object)

Returns true if the *object* offers light.

ParseToken(type, value)

Performs general parsing; see also NounDomain().

PlaceInScope(object)

Used in an add_to_scope property or scope= token to put the *object* into scope for the parser.

PlayerTo(object, flag)

Moves the player to *object*. Prints its description unless optional *flag* is 1 (no description) or 2 (as if walked in).

PrintOrRun(object, property, flag)

If *object.property* is a string, output it (followed by a newline unless optional *flag* is true), and return true. If it's a routine, run it and return what the routine returns.

PronounNotice(object)

Associates an appropriate pronoun with the *object*.

PronounValue('pronoun')

Returns the object to which 'it' (or 'him', 'her', 'them') currently refers, or nothing.

ScopeWithin(object)

Used in an add_to_scope property or scope= token to put the contents of the *object* in scope for the parser.

SetPronoun('pronoun', object)

Defines the *object* to which a given *pronoun* refers. SetTime(*expr1*, *expr2*)

Sets the_time to expr1 (in mins 0..1439 since midnight), running at expr2 (+ve: expr2 minutes pass each turn;

-ve: - expr2 turns take one minute; zero: time stands still).

StartDaemon(object)

Starts the *object*'s daemon.

| StartTimer(object, expr)

Starts the *object*'s timer, initialising its time_left to *expr*. The object's time_out property will be called after that number of turns have elapsed.

StopDaemon(object)

Stops the *object*'s daemon.

StopTimer(object)

Stops the *object*'s timer.

TestScope(object, actor)

Returns true if the *object* is in scope, otherwise false. If the optional *actor* is supplied, that defines the scope.

TryNumber(expr)

Parses word *expr* in the input stream as a number, recognising decimals, also English words one..twenty. Returns the number 1..10000, or -1000 if the parse fails.

UnsignedCompare(expr1, expr2)

Returns –1 if *expr1* is less than *expr2*, 0 if *expr1* equals *expr2*, and 1 if *expr1* is greater than *expr2*. Both expressions are unsigned, in the range 0..65535.

WordAddress(*expr*)

Returns a byte array contains the raw text of word *expr* in the input stream.

WordInProperty(word, object, property)

Returns true if the dictionary *word* is listed in the *property* values for the *object*.

WordLength(expr)

Returns the length of word *expr* in the input stream.

WriteListFrom(object, expr)

Outputs a list of *object* and its siblings, in the given style, an *expr* formed by adding any of: ALWAYS_BIT, CONCEAL_BIT, DEFART_BIT, ENGLISH_BIT, FULLINV_BIT, INDENT_BIT, ISARE_BIT, NEWLINE_BIT, PARTINV_BIT, RECURSE BIT, TERSE BIT, WORKFLAG BIT.

YesOrNo()

Returns true if the player types "YES", false for "NO".

ZRegion(arg)

Returns the type of its *arg*: 3 for a string address, 2 for a routine address, 1 for an object number, or 0 otherwise.

Where the *value* of a property can be a routine, several formats are possible (but remember: embedded "]" returns false, standalone "]" returns true,):

```
property [; statement; statement; ... ]
property [; return routine(); ]
property [; routine(); ]
property routine
```

Additive properties are marked "\$\theta\$".

```
add to scope
```

For an object: additional objects which follow it in and out of scope. The *value* can be: a space-separated list of *objects*, or a routine which invokes PlaceInScope() or ScopeWithin() to specify objects.

after ⊕

For an object: receives every action and fake_action for which this is the noun.

For a room: receives every action which occurs here.

The *value* is a routine of structure similar to a switch statement, having cases for the appropriate *actions* (and an optional default as well); it is invoked after the action has happened, but before the player has been informed. The routine should return: false to continue, telling the player what has happened, or true to stop processing the action and produce no further output.

article

For an object: the object's indefinite article – the default is automatically "a", "an" or "some". The *value* can be: a string, or a routine which outputs a string.

articles

For a non-English object: its definite and indefinite articles. The *value* is an array of strings.

before ⊕

For an object: receives every action and fake_action for which this is the noun.

For a room: receives every action which occurs here.

The *value* is a routine invoked before the action has happened. See after.

cant go

For a room: the message when the player attempts an impossible exit. The *value* can be: a string, or a routine which outputs a string.

capacity

For a container or supporter object: the number of objects which can be placed in or on it – the default is 100. For the player: the number which can be carried – selfobj has an initial capacity of MAX CARRIED.

The *value* can be: a number, or a routine which returns a number.

d to

For a room: a possible exit. The *value* can be:

- false (the default): not an exit;
- a string: output to explain why this is not an exit;
- a *room*: the exit leads to this room:
- · a door object: the exit leads through this door;
- a routine which should return: false, a string, a room, a door object, or true to signify 'not an exit' and produce no further output.

daemon

The *value* is a routine which can be activated by StartDaemon(*object*) and which then runs once each turn until deactivated by StopDaemon(*object*).

describe ⊕

For an object: called before the object's description is output. For a room: called before the room's (long) description is output.

The *value* is a routine which should return: false to continue, outputting the usual description, or true to stop processing and produce no further output.

description

For an object: its description (output by Examine). For a room: its long description (output by Look).

The *value* can be: a string, or a routine which outputs a string.

door dir

For a compass object (d_obj, e_obj, ...): the direction in which an attempt to move to this object actually leads. For a door object: the direction in which this door leads.

The *value* can be: a directional property (d_to, e_to, ...), or a routine which returns such a property.

door to

For a door object: where it leads. The *value* can be:

- false (the default): leads nowhere;
- a string: output to explain why door leads nowhere;
- a *room*: the door leads to this room;
- a routine which should return: false, a string, a room, or true to signify 'leads nowhere' without producing any output.

e to

See d to.

each turn ⊕

Invoked at the end of each turn (after all appropriate daemons and timers) whenever the object is in scope. The *value* can be: a string, or a routine.

found in

For an object: the rooms where this object can be found, unless it has the absent attribute. The *value* can be:

- a space-separated list of *rooms* (where this object can be found) or *objects* (whose locations are tracked by this object);
- a routine which should return: true if this object can be found in the current location, otherwise false.

grammar

For an animate or talkable object: the *value* is a routine called when the parser knows that this object is being addressed, but has yet to test the grammar. The routine should return: false to continue, true to indicate that the routine has parsed the entire command, or a dictionary word ('word' or -'word').

in to

See d to.

initial

For an object: its description before being picked up. For a room: its description when the player enters the room.

The *value* can be: a string, or a routine which outputs a string.

inside description

For an enterable object: its description, output as part of the room description when the player is inside the object.

The *value* can be: a string, or a routine which outputs a string.

invent

For an object: the *value* is a routine for outputting the object's inventory listing, which is called twice. On the first call nothing has been output; inventory_stage has the value 1, and the routine should return: false to continue or true to stop processing and produce no further output. On the second call the object's indefinite article and short name have been output, but not any subsidiary information; inventory_stage has the value 2, and the routine should return: false to continue or true to stop processing and produce no further output.

life ⊕

For an animate object: receives person-to-person actions (Answer Ask Attack Give Kiss Order Show Tell ThrowAt WakeOther) for which this is the noun. The value is a routine of structure similar to a switch statement, having cases for the appropriate actions (and an optional default as well). The routine should return: false to continue, telling the player what has happened, or true to stop processing the action and produce no further output.

list together

For an object: groups related objects when outputting an inventory or room contents list. The *value* can be:

- a *number*: all objects having this value are grouped;
- a string: all objects having this value are grouped as a count of the string;
- a routine which is called twice. On the first call nothing has been output; inventory_stage has the value 1, and the routine should return: false to continue, or true to stop processing and produce no further output. On the second call the list has been output; inventory_stage has the value 2, and there is no test on the return value.

n_to

See d to.

name ⊕

Defines a space-separated list of words which are added to the Inform dictionary. Each word can be supplied in apostrophes '...' or quotes "..."; in all other cases only words in apostrophes update the dictionary.

For an object: identifies this object.

For a room: outputs "does not need to be referred to".

ne_to

See d_to.

lnumber

For an object or room: the *value* is a general-purpose variable freely available for use by the program. A player object must provide (but not use) this variable.

nw to

See d to.

orders

For an animate or talkable object: the *value* is a routine called to carry out the player's orders. The routine should return: false to continue, or true to stop processing the action and produce no further output.

out to

See d to.

parse_name

For an object: the *value* is a routine called to parse an object's name. The routine should return: zero if the text makes no sense, –1 to cause the parser to resume, or the positive number of words matched.

plural

For an object: its plural form, when in the presence of others like it. The *value* can be: a string, or a routine which outputs a string.

react after

For an object: detects nearby actions – those which take place when this object is in scope. The *value* is a routine invoked after the action has happened, but before the player has been informed. See after.

react before

For an object: detects nearby actions – those which take place when this object is in scope. The *value* is a routine invoked before the action has happened. See after.

s_to

se to

See d_to.

short name

For an object: an alternative or extended short name. The *value* can be: a string, or a routine which outputs a string. The routine should return: false to continue by outputting the object's 'real' short name (from the head of the object definition), or true to stop processing the action and produce no further output.

short name indef

For a non_English object: the short name when preceded by an indefinite object. The *value* can be: a string, or a routine which outputs a string.

sw to

See d to.

time left

For a timer object: the *value* is a variable to hold the number of turns left until this object's timer – activated and initialised by StartTimer(*object*) – counts down to zero and invokes the object's time out property.

time out

For a timer object: the *value* is a routine which is run when the object's time_left value – initialised by StartTimer(*object*), and not in the meantime cancelled by StopTimer(*object*) – counts down to zero.

u_to

w to

See d to.

when_closed

when_open

For a container or door object: used when including this object in a room's long description. The *value* can be: a string, or a routine which outputs a string.

when_off

when_on

For a switchable object: used when including this object in a room's long description. The *value* can be: a string, or a routine which outputs a string.

with key

For a lockable object: the 'key' *object* needed to lock and unlock the object, or nothing if no key fits.

•• Object attributes

absent

For a 'floating' object (one with a found_in property, which can appear in many rooms): is no longer there.

animate

For an object: is a living creature.

clothing

For an object: can be worn.

concealed

For an object: is present but hidden from view.

container

For an object: other objects can be put in (but not on) it.

door

For an object: is a door or bridge between rooms.

edible

For an object: can be eaten.

enterable

For an object: can be entered.

For an animate object: is female.

general

female

For an object or room: a general-purpose flag.

light

For an object or room: is giving off light.

lockable

For an object: can be locked; see the with_key property. locked

For an object: can't be opened.

male

For an animate object: is male.

moved

For an object: is being, or has been, taken by the player.

For an animate object: is neither male nor female.

on

For a switchable object: is switched on.

oner

For a container or door object: is open.

openable

For a container or door object: can be opened.

pluralname

For an object: is plural.

proper

For an object: the short name is a proper noun, therefore not to be preceded by "The" or "the".

scenery

For an object: can't be taken; is not listed in a room description.

scored

For an object: awards OBJECT_SCORE points when taken for the first time. For a room: awards ROOM_SCORE points when visited for the first time.

static

For an object: can't be taken.

supporter

For an object: other objects can be put on (but not in) it.

For an object: can be switched off or on.

talkable

For an object: can be addressed in "object, do this" style. transparent

For a container object: objects inside it are visible. visited

For a room: is being, or has been, visited by the player. workflag

Temporary internal flag, also available to the program.

For a clothing object: is being worn.

These routines, if you supply them, are called when shown. AfterLife()

The player has died. Setting deadflag to 0 resurrects her. AfterPrompt()

The ">" prompt has been output.

Amusing()

The player has won and AMUSING_PROVIDED is defined. BeforeParsing()

The parser has input some text, set up the buffer and parse tables, and initialised wn to 1, but done nothing else.

ChooseObjects(object, flag)

Parser has found "ALL" or an ambiguous noun phrase and decided that object should be excluded (flag is 0), or included (flag is 1). The routine should return: 0 to let this stand, 1 to force inclusion, or 2 to force exclusion. If flag is 2, the parser is undecided, and the routine should return an appropriate score 0..9.

DarkToDark()

The player has moved from one dark room to another.

DeathMessage()

The player has died and deadflag is 3 or more.

GamePostRoutine()

Called after all actions.

GamePreRoutine()

Called before all actions.

Initialise()

Mandatory; note British spelling: called at start. Must set location; can return 2 to suppress game banner.

InScope()

Called during parsing.

LookRoutine()

Called at the end of every Look description.

NewRoom()

Called when room changes, before description is output.

ParseNoun(object)

Called to parse the *object*'s name.

ParseNumber(byte_array,length)

Called to parse a number.

ParserError(number)

Called to handle an error.

PrintRank()

Completes the output of the score.

PrintTaskName(number)

Prints the name of the task.

PrintVerb(addr)

Called when an unusual verb is printed.

TimePasses()

Called after every turn.

UnknownVerb()

Called when an unusual verb is encountered.

•• Group 1 actions •••••••••

Group 1 actions support the 'meta' verbs and debug tools.

• Group 2 actions • • • • • • • • •

Group 2 actions usually work, given the right circumstances. These are the standard actions and their triggering verbs.

"CLOSE [UP]", "COVER [UP]", "SHUT [UP]" Close "DISROBE", "DOFF", "REMOVE", "SHED", Disrobe

"TAKE OFF"

Drop "DISCARD", "DROP", "PUT DOWN", "THROW"

"FAT" Eat

Empty "EMPTY [OUT]"

"EMPTY INIINTOIONIONTOITO" EmptvT

"CROSS", "ENTER", "GET IN | INTO | ON | ONTO", Enter

"GO INIINSIDELINTOLTHROUGH". "LEAVE IN|INSIDE|INTO|THROUGH",

"LIE IN|INSIDE|ON", "LIE ON TOP OF",

"RUN IN|INSIDE|INTO|THROUGH", "SIT INIINSIDEION", "SIT ON TOP OF",

"STAND ON", "WALK IN | INSIDE | INTO | THROUGH"

"CHECK," "DESCRIBE", "EXAMINE", "L[OOK] AT", Examine

"READ", "WATCH", "X"

Exit "EXIT", "GET OFF|OUT|UP", "LEAVE",

"OUT[SIDE]", "STAND [UP]"

"GFT OFF" GetOff

"FEED [TO]", "GIVE [TO]", "OFFER [TO]", Give

"PAY [T0]"

"GO", "LEAVE", "RUN", "WALK" Go GoIn "CROSS", "ENTER", "IN[SIDE]"

Insert "DISCARD INIINTO", "DROP DOWNIINIINTO".

"INSERT INIINTO". "PUT INIINSIDEIINTO".

"THROW DOWN|IN|INTO"

"I[NV]", "INVENTORY", "TAKE INVENTORY" Inv

InvTall "I[NV] TALL", "INVENTORY TALL" "I[NV] WIDE", "INVENTORY WIDE" InvWide

"LOCK WITH" Lock "L[00K1" Look

"OPEN", "UNCOVER", "UNDO", "UNWRAP" 0pen "DISCARD ON|ONTO", "DROP ON|ONTO", Put.On

"PUT ONIONTO", "THROW ONIONTO"

"GET FROM", "REMOVE FROM", "TAKE FROM OFF" Remove

"L[OOK] IN|INSIDE|INTO|THROUGH", "SEARCH" Search Show "DISPLAY [TO]", "PRESENT [TO]", "SHOW [TO]"

SwitchOff "CLOSE OFF", "SCREW OFF", "SWITCH OFF", "TURN OFF", "TWIST OFF"

SwitchOn "SCREW ON", "SWITCH ON", "TURN ON",

"TWIST ON"

"CARRY", "GET", "HOLD", "PEEL [OFF]", Take

"PICK UP", "REMOVE", "TAKE"

"CLEAR TO", "MOVE TO", "PRESS TO", "PUSH TO", Transfer

"SHIFT TO", "TRANSFER TO"

"OPEN WITH", "UNDO WITH", "UNLOCK WITH" Unlock

"GO", "LEAVE", "RUN", "WALK" VagueGo Wear

and stop at the 'before' stage (so there is no 'after' stage).

Answer

"ATTACK", "BREAK", "CRACK", "DESTROY", Attack

Blow

Burn "BURN [WITH]", "LIGHT [WITH]"

Buy

Climb "CLIMB [OVERIUP1", "SCALE"

Consult "CONSULT ABOUTION", "LOOK UP IN",

"CHOP," "CUT", "PRUNE", "SLICE" Cut

Fill "FILL"

"HOP", "JUMP", "SKIP" Jump

Kiss "HEAR", "LISTEN [TO]" Listen

No "NO" "PRAY" Prav

Pull Push

PushDir "CLEAR", "MOVE", "PRESS", "PUSH", "SHIFT" Rub "CLEAN", "DUST", "POLISH", "RUB", "SCRUB",

"SHINE", "SWEEP", "WIPE"

Set SetTo

"ADJUST TO", "SET TO"

"DON", "PUT ON", "WEAR"

Group 3 actions are by default stubs which output a message

"ANSWER TO", "SAY TO", "SHOUT TO", "SPEAK TO"

Ask "ASK ABOUT" "ASK FOR" AskFor

"FIGHT", "HIT", "KILL", "MURDER", "PUNCH",

"SMASH", "THUMP", "TORTURE", "WRECK"

"BLOW"

"BUY" "PURCHASE"

"READ ABOUT IN", "READ IN"

"DIG [WITH]" Dig

"DRINK", "SIP", "SWALLOW" Drink

"HOP OVER", "JUMP OVER", "SKIP OVER" JumpOver

"EMBRACE", "HUG", "KISS"

LookUnder "LOOK UNDER"

Mild Various mild swearwords.

"DRAG" "PULL"

"CLEAR", "MOVE", "PRESS", "PUSH", "SHIFT"

"ADJUST", "SET"

"SING" Sing "NAP", "SLEEP" Sleep "SMELL", "SNIFF" Smell

"SORRY" Sorry

"SOUASH", "SOUEEZE" Saueeze Various strong swearwords.

Strong "DIVE", "SWIM" Swim Swing "SWING [ON]" "TASTE" Taste

"TELL ABOUT" Tell

Think "THINK"

ThrowAt "THROW AGAINST | AT | ON | ON TO"

"ATTACH [TO]", "FASTEN [TO]", "FIX [TO]", Tie

"TIE [T01"

Touch "FEEL," "FONDLE", "GROPE", "TOUCH"

"ROTATE", "SCREW", "TURN", "TWIST", "UNSCREW" Turn

Wait "WAIT" "7"

Wake "AWAKE[N]", "WAKE [UP]" WakeOther "AWAKE[N]", "WAKE [UP]"

"WAVF" Wave WaveHands "WAVE" "Y[ES]" Yes

• Fake actions ••••••

LetGo Generated by Remove.

ListMiscellany Outputs a range of inventory messages. Outputs a range of utility messages. Miscellanv

Generated when the parser fails to NotUnderstood interpret some orders.

Order Receives things not handled by orders. PluralFound

Tells the parser that parse name() has identified a plural object.

Outputs the prompt, normally ">". Prompt Receive Generated by Insert and PutOn. Generated when the parser can't TheSame distinguish between two objects.

Generated by ThrowAt. ThrownAt