**Collections**

|  |  |
| --- | --- |
| **Library version:** | 3.2.2 |
| **Library scope:** | GLOBAL |
| **Named arguments:** | supported |

**Introduction**

A test library providing keywords for handling lists and dictionaries.

Collections is Robot Framework's standard library that provides a set of keywords for handling Python lists and dictionaries. This library has keywords, for example, for modifying and getting values from lists and dictionaries (e.g. [*Append To List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Append%20To%20List), [*Get From Dictionary*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20From%20Dictionary)) and for verifying their contents (e.g. [*Lists Should Be Equal*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal), [*Dictionary Should Contain Value*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Contain%20Value)).

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**Related keywords in BuiltIn**

Following keywords in the BuiltIn library can also be used with lists and dictionaries:

|  |  |  |
| --- | --- | --- |
| **Keyword Name** | **Applicable With** | **Comment** |
| *Create List* | lists |  |
| *Create Dictionary* | dicts | Was in Collections until RF 2.9. |
| *Get Length* | both |  |
| *Length Should Be* | both |  |
| *Should Be Empty* | both |  |
| *Should Not Be Empty* | both |  |
| *Should Contain* | both |  |
| *Should Not Contain* | both |  |
| *Should Contain X Times* | lists |  |
| *Should Not Contain X Times* | lists |  |
| *Get Count* | lists |  |

**Using with list-like and dictionary-like objects**

List keywords that do not alter the given list can also be used with tuples, and to some extend also with other iterables. [*Convert To List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Convert%20To%20List) can be used to convert tuples and other iterables to Python list objects.

Similarly dictionary keywords can, for most parts, be used with other mappings. [*Convert To Dictionary*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Convert%20To%20Dictionary) can be used if real Python dict objects are needed.

**Boolean arguments**

Some keywords accept arguments that are handled as Boolean values true or false. If such an argument is given as a string, it is considered false if it is an empty string or equal to FALSE, NONE, NO, OFF or 0, case-insensitively. Keywords verifying something that allow dropping actual and expected values from the possible error message also consider string no values to be false. Other strings are considered true regardless their value, and other argument types are tested using the same [rules as in Python](http://docs.python.org/library/stdtypes.html#truth).

True examples:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=True | # Strings are generally true. |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=yes | # Same as the above. |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=${TRUE} | # Python True is true. |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=${42} | # Numbers other than 0 are true. |

False examples:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=False | # String false is false. |  |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=no | # Also string no is false. |  |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=${EMPTY} | # Empty string is false. |  |
| [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) | ${list} | ${pattern} | case\_insensitive=${FALSE} | # Python False is false. |  |
| [*Lists Should Be Equal*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal) | ${x} | ${y} | Custom error | values=no values | # no values works with values argument |

Considering string NONE false is new in Robot Framework 3.0.3 and considering also OFF and 0 false is new in Robot Framework 3.1.

**Data in examples**

List related keywords use variables in format ${Lx} in their examples. They mean lists with as many alphabetic characters as specified by x. For example, ${L1} means ['a'] and ${L3} means ['a', 'b', 'c'].

Dictionary keywords use similar ${Dx} variables. For example, ${D1} means {'a': 1} and ${D3} means {'a': 1, 'b': 2, 'c': 3}.

**Shortcuts**

**List style:**  Compact  Expanded

[Append To List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Append%20To%20List) · [Combine Lists](http://robotframework.org/robotframework/latest/libraries/Collections.html#Combine%20Lists) · [Convert To Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Convert%20To%20Dictionary) · [Convert To List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Convert%20To%20List) · [Copy Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Copy%20Dictionary) · [Copy List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Copy%20List) · [Count Values In List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Count%20Values%20In%20List) · [Dictionaries Should Be Equal](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionaries%20Should%20Be%20Equal) · [Dictionary Should Contain Item](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Contain%20Item) · [Dictionary Should Contain Key](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Contain%20Key) · [Dictionary Should Contain Sub Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Contain%20Sub%20Dictionary) · [Dictionary Should Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Contain%20Value) · [Dictionary Should Not Contain Key](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Not%20Contain%20Key) · [Dictionary Should Not Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html#Dictionary%20Should%20Not%20Contain%20Value) · [Get Dictionary Items](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Dictionary%20Items) · [Get Dictionary Keys](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Dictionary%20Keys) · [Get Dictionary Values](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Dictionary%20Values) · [Get From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20From%20Dictionary) · [Get From List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20From%20List) · [Get Index From List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Index%20From%20List) · [Get Match Count](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Match%20Count) · [Get Matches](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Matches) · [Get Slice From List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Slice%20From%20List) · [Insert Into List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Insert%20Into%20List) · [Keep In Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Keep%20In%20Dictionary) · [List Should Contain Sub List](http://robotframework.org/robotframework/latest/libraries/Collections.html#List%20Should%20Contain%20Sub%20List) · [List Should Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html#List%20Should%20Contain%20Value) · [List Should Not Contain Duplicates](http://robotframework.org/robotframework/latest/libraries/Collections.html#List%20Should%20Not%20Contain%20Duplicates) · [List Should Not Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html#List%20Should%20Not%20Contain%20Value) · [Lists Should Be Equal](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal) · [Log Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Log%20Dictionary) · [Log List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Log%20List) · [Pop From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Pop%20From%20Dictionary) · [Remove Duplicates](http://robotframework.org/robotframework/latest/libraries/Collections.html#Remove%20Duplicates) · [Remove From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Remove%20From%20Dictionary) · [Remove From List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Remove%20From%20List) · [Remove Values From List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Remove%20Values%20From%20List) · [Reverse List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Reverse%20List) · [Set List Value](http://robotframework.org/robotframework/latest/libraries/Collections.html#Set%20List%20Value) · [Set To Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html#Set%20To%20Dictionary) · [Should Contain Match](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) · [Should Not Contain Match](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Not%20Contain%20Match) · [Sort List](http://robotframework.org/robotframework/latest/libraries/Collections.html#Sort%20List)

**Keywords**

|  |  |  |
| --- | --- | --- |
| **Keyword** | **Arguments** | **Documentation** |
| **[Append To List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Append%20To%20List" \o "Link to this keyword)** | *list\_*, *\*values* | Adds values to the end of list.  Example:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Append To List | ${L1} | xxx |  |  | | Append To List | ${L2} | x | y | z |   =>  ${L1} = ['a', 'xxx']  ${L2} = ['a', 'b', 'x', 'y', 'z'] |
| **[Combine Lists](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Combine%20Lists" \o "Link to this keyword)** | *\*lists* | Combines the given lists together and returns the result.  The given lists are not altered by this keyword.  Example:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | ${x} = | Combine Lists | ${L1} | ${L2} |  | | ${y} = | Combine Lists | ${L1} | ${L2} | ${L1} |   =>  ${x} = ['a', 'a', 'b']  ${y} = ['a', 'a', 'b', 'a']  ${L1} and ${L2} are not changed. |
| **[Convert To Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Convert%20To%20Dictionary" \o "Link to this keyword)** | *item* | Converts the given item to a Python dict type.  Mainly useful for converting other mappings to normal dictionaries. This includes converting Robot Framework's own DotDict instances that it uses if variables are created using the &{var} syntax.  Use *Create Dictionary* from the BuiltIn library for constructing new dictionaries.  New in Robot Framework 2.9. |
| **[Convert To List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Convert%20To%20List" \o "Link to this keyword)** | *item* | Converts the given item to a Python list type.  Mainly useful for converting tuples and other iterable to lists. Use *Create List* from the BuiltIn library for constructing new lists. |
| **[Copy Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Copy%20Dictionary" \o "Link to this keyword)** | *dictionary*, *deepcopy=False* | Returns a copy of the given dictionary.  The deepcopy argument controls should the returned dictionary be a [shallow or deep copy](https://docs.python.org/library/copy.html). By default returns a shallow copy, but that can be changed by giving deepcopy a true value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)). This is a new option in Robot Framework 3.1.2. Earlier versions always returned shallow copies.  The given dictionary is never altered by this keyword. |
| **[Copy List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Copy%20List" \o "Link to this keyword)** | *list\_*, *deepcopy=False* | Returns a copy of the given list.  If the optional deepcopy is given a true value, the returned list is a deep copy. New option in Robot Framework 3.1.2.  The given list is never altered by this keyword. |
| **[Count Values In List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Count%20Values%20In%20List" \o "Link to this keyword)** | *list\_*, *value*, *start=0*, *end=None* | Returns the number of occurrences of the given value in list.  The search can be narrowed to the selected sublist by the start and end indexes having the same semantics as with [*Get Slice From List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Slice%20From%20List) keyword. The given list is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${x} = | Count Values In List | ${L3} | b |   =>  ${x} = 1  ${L3} is not changed |
| **[Dictionaries Should Be Equal](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionaries%20Should%20Be%20Equal" \o "Link to this keyword)** | *dict1*, *dict2*, *msg=None*, *values=True* | Fails if the given dictionaries are not equal.  First the equality of dictionaries' keys is checked and after that all the key value pairs. If there are differences between the values, those are listed in the error message. The types of the dictionaries do not need to be same.  See [*Lists Should Be Equal*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal) for more information about configuring the error message with msg and values arguments. |
| **[Dictionary Should Contain Item](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Contain%20Item" \o "Link to this keyword)** | *dictionary*, *key*, *value*, *msg=None* | An item of key / value must be found in a dictionary.  Value is converted to unicode for comparison.  Use the msg argument to override the default error message. |
| **[Dictionary Should Contain Key](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Contain%20Key" \o "Link to this keyword)** | *dictionary*, *key*, *msg=None* | Fails if key is not found from dictionary.  Use the msg argument to override the default error message. |
| **[Dictionary Should Contain Sub Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Contain%20Sub%20Dictionary" \o "Link to this keyword)** | *dict1*, *dict2*, *msg=None*, *values=True* | Fails unless all items in dict2 are found from dict1.  See [*Lists Should Be Equal*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal) for more information about configuring the error message with msg and values arguments. |
| **[Dictionary Should Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Contain%20Value" \o "Link to this keyword)** | *dictionary*, *value*, *msg=None* | Fails if value is not found from dictionary.  Use the msg argument to override the default error message. |
| **[Dictionary Should Not Contain Key](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Not%20Contain%20Key" \o "Link to this keyword)** | *dictionary*, *key*, *msg=None* | Fails if key is found from dictionary.  Use the msg argument to override the default error message. |
| **[Dictionary Should Not Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Dictionary%20Should%20Not%20Contain%20Value" \o "Link to this keyword)** | *dictionary*, *value*, *msg=None* | Fails if value is found from dictionary.  Use the msg argument to override the default error message. |
| **[Get Dictionary Items](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Dictionary%20Items" \o "Link to this keyword)** | *dictionary*, *sort\_keys=True* | Returns items of the given dictionary as a list.  Uses [*Get Dictionary Keys*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Dictionary%20Keys) to get keys and then returns corresponding items. By default keys are sorted and items returned in that order, but this can be changed by giving sort\_keys a false value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)). Notice that with Python 3.5 and earlier dictionary order is undefined unless using ordered dictionaries.  Items are returned as a flat list so that first item is a key, second item is a corresponding value, third item is the second key, and so on.  The given dictionary is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${sorted} = | Get Dictionary Items | ${D3} |  | | ${unsorted} = | Get Dictionary Items | ${D3} | sort\_keys=False |   =>  ${sorted} = ['a', 1, 'b', 2, 'c', 3]  ${unsorted} = ['b', 2, 'a', 1, 'c', 3] # Order depends on Python version.  sort\_keys is a new option in Robot Framework 3.1.2. Earlier items were always sorted based on keys. |
| **[Get Dictionary Keys](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Dictionary%20Keys" \o "Link to this keyword)** | *dictionary*, *sort\_keys=True* | Returns keys of the given dictionary as a list.  By default keys are returned in sorted order (assuming they are sortable), but they can be returned in the original order by giving sort\_keys a false value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)). Notice that with Python 3.5 and earlier dictionary order is undefined unless using ordered dictionaries.  The given dictionary is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${sorted} = | Get Dictionary Keys | ${D3} |  | | ${unsorted} = | Get Dictionary Keys | ${D3} | sort\_keys=False |   =>  ${sorted} = ['a', 'b', 'c']  ${unsorted} = ['b', 'a', 'c'] # Order depends on Python version.  sort\_keys is a new option in Robot Framework 3.1.2. Earlier keys were always sorted. |
| **[Get Dictionary Values](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Dictionary%20Values" \o "Link to this keyword)** | *dictionary*, *sort\_keys=True* | Returns values of the given dictionary as a list.  Uses [*Get Dictionary Keys*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Dictionary%20Keys) to get keys and then returns corresponding values. By default keys are sorted and values returned in that order, but this can be changed by giving sort\_keys a false value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)). Notice that with Python 3.5 and earlier dictionary order is undefined unless using ordered dictionaries.  The given dictionary is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${sorted} = | Get Dictionary Values | ${D3} |  | | ${unsorted} = | Get Dictionary Values | ${D3} | sort\_keys=False |   =>  ${sorted} = [1, 2, 3]  ${unsorted} = [2, 1, 3] # Order depends on Python version.  sort\_keys is a new option in Robot Framework 3.1.2. Earlier values were always sorted based on keys. |
| **[Get From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20From%20Dictionary" \o "Link to this keyword)** | *dictionary*, *key* | Returns a value from the given dictionary based on the given key.  If the given key cannot be found from the dictionary, this keyword fails.  The given dictionary is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${value} = | Get From Dictionary | ${D3} | b |   =>  ${value} = 2 |
| **[Get From List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20From%20List" \o "Link to this keyword)** | *list\_*, *index* | Returns the value specified with an index from list.  The given list is never altered by this keyword.  Index 0 means the first position, 1 the second, and so on. Similarly, -1 is the last position, -2 the second last, and so on. Using an index that does not exist on the list causes an error. The index can be either an integer or a string that can be converted to an integer.  Examples (including Python equivalents in comments):   |  |  |  |  |  | | --- | --- | --- | --- | --- | | ${x} = | Get From List | ${L5} | 0 | # L5[0] | | ${y} = | Get From List | ${L5} | -2 | # L5[-2] |   =>  ${x} = 'a'  ${y} = 'd'  ${L5} is not changed |
| **[Get Index From List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Index%20From%20List" \o "Link to this keyword)** | *list\_*, *value*, *start=0*, *end=None* | Returns the index of the first occurrence of the value on the list.  The search can be narrowed to the selected sublist by the start and end indexes having the same semantics as with [*Get Slice From List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Get%20Slice%20From%20List) keyword. In case the value is not found, -1 is returned. The given list is never altered by this keyword.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${x} = | Get Index From List | ${L5} | d |   =>  ${x} = 3  ${L5} is not changed |
| **[Get Match Count](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Match%20Count" \o "Link to this keyword)** | *list*, *pattern*, *case\_insensitive=False*, *whitespace\_insensitive=False* | Returns the count of matches to pattern in list.  For more information on pattern, case\_insensitive, and whitespace\_insensitive, see [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match).  Examples:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ${count}= | Get Match Count | ${list} | a\* | # ${count} will be the count of strings beginning with 'a' |  | | ${count}= | Get Match Count | ${list} | regexp=a.\* | # ${matches} will be the count of strings beginning with 'a' (regexp version) |  | | ${count}= | Get Match Count | ${list} | a\* | case\_insensitive=${True} | # ${matches} will be the count of strings beginning with 'a' or 'A' | |
| **[Get Matches](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Matches" \o "Link to this keyword)** | *list*, *pattern*, *case\_insensitive=False*, *whitespace\_insensitive=False* | Returns a list of matches to pattern in list.  For more information on pattern, case\_insensitive, and whitespace\_insensitive, see [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match).  Examples:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ${matches}= | Get Matches | ${list} | a\* | # ${matches} will contain any string beginning with 'a' |  | | ${matches}= | Get Matches | ${list} | regexp=a.\* | # ${matches} will contain any string beginning with 'a' (regexp version) |  | | ${matches}= | Get Matches | ${list} | a\* | case\_insensitive=${True} | # ${matches} will contain any string beginning with 'a' or 'A' | |
| **[Get Slice From List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Get%20Slice%20From%20List" \o "Link to this keyword)** | *list\_*, *start=0*, *end=None* | Returns a slice of the given list between start and end indexes.  The given list is never altered by this keyword.  If both start and end are given, a sublist containing values from start to end is returned. This is the same as list[start:end] in Python. To get all items from the beginning, use 0 as the start value, and to get all items until and including the end, use None (default) as the end value.  Using start or end not found on the list is the same as using the largest (or smallest) available index.  Examples (incl. Python equivalents in comments):   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ${x} = | Get Slice From List | ${L5} | 2 | 4 | # L5[2:4] | | ${y} = | Get Slice From List | ${L5} | 1 |  | # L5[1:None] | | ${z} = | Get Slice From List | ${L5} | end=-2 |  | # L5[0:-2] |   =>  ${x} = ['c', 'd']  ${y} = ['b', 'c', 'd', 'e']  ${z} = ['a', 'b', 'c']  ${L5} is not changed |
| **[Insert Into List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Insert%20Into%20List" \o "Link to this keyword)** | *list\_*, *index*, *value* | Inserts value into list to the position specified with index.  Index 0 adds the value into the first position, 1 to the second, and so on. Inserting from right works with negative indices so that -1 is the second last position, -2 third last, and so on. Use [*Append To List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Append%20To%20List) to add items to the end of the list.  If the absolute value of the index is greater than the length of the list, the value is added at the end (positive index) or the beginning (negative index). An index can be given either as an integer or a string that can be converted to an integer.  Example:   |  |  |  |  | | --- | --- | --- | --- | | Insert Into List | ${L1} | 0 | xxx | | Insert Into List | ${L2} | ${-1} | xxx |   =>  ${L1} = ['xxx', 'a']  ${L2} = ['a', 'xxx', 'b'] |
| **[Keep In Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Keep%20In%20Dictionary" \o "Link to this keyword)** | *dictionary*, *\*keys* | Keeps the given keys in the dictionary and removes all other.  If the given key cannot be found from the dictionary, it is ignored.  Example:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Keep In Dictionary | ${D5} | b | x | d |   =>  ${D5} = {'b': 2, 'd': 4} |
| **[List Should Contain Sub List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "List%20Should%20Contain%20Sub%20List" \o "Link to this keyword)** | *list1*, *list2*, *msg=None*, *values=True* | Fails if not all of the elements in list2 are found in list1.  The order of values and the number of values are not taken into account.  See [*Lists Should Be Equal*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Lists%20Should%20Be%20Equal) for more information about configuring the error message with msg and values arguments. |
| **[List Should Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "List%20Should%20Contain%20Value" \o "Link to this keyword)** | *list\_*, *value*, *msg=None* | Fails if the value is not found from list.  Use the msg argument to override the default error message. |
| **[List Should Not Contain Duplicates](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "List%20Should%20Not%20Contain%20Duplicates" \o "Link to this keyword)** | *list\_*, *msg=None* | Fails if any element in the list is found from it more than once.  The default error message lists all the elements that were found from the list multiple times, but it can be overridden by giving a custom msg. All multiple times found items and their counts are also logged.  This keyword works with all iterables that can be converted to a list. The original iterable is never altered. |
| **[List Should Not Contain Value](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "List%20Should%20Not%20Contain%20Value" \o "Link to this keyword)** | *list\_*, *value*, *msg=None* | Fails if the value is found from list.  Use the msg argument to override the default error message. |
| **[Lists Should Be Equal](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Lists%20Should%20Be%20Equal" \o "Link to this keyword)** | *list1*, *list2*, *msg=None*, *values=True*, *names=None*, *ignore\_order=False* | Fails if given lists are unequal.  The keyword first verifies that the lists have equal lengths, and then it checks are all their values equal. Possible differences between the values are listed in the default error message like Index 4: ABC != Abc. The types of the lists do not need to be the same. For example, Python tuple and list with same content are considered equal.  The error message can be configured using msg and values arguments:   * If msg is not given, the default error message is used. * If msg is given and values gets a value considered true (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)), the error message starts with the given msg followed by a newline and the default message. * If msg is given and values is not given a true value, the error message is just the given msg.   The optional names argument can be used for naming the indices shown in the default error message. It can either be a list of names matching the indices in the lists or a dictionary where keys are indices that need to be named. It is not necessary to name all of the indices. When using a dictionary, keys can be either integers or strings that can be converted to integers.  Examples:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | ${names} = | Create List | First Name | Family Name | Email | | Lists Should Be Equal | ${people1} | ${people2} | names=${names} |  | | ${names} = | Create Dictionary | 0=First Name | 2=Email |  | | Lists Should Be Equal | ${people1} | ${people2} | names=${names} |  |   If the items in index 2 would differ in the above examples, the error message would contain a row like Index 2 (email): name@foo.com != name@bar.com.  The optional ignore\_order argument can be used to ignore the order of the elements in the lists. Using it requires items to be sortable. This is new in Robot Framework 3.2.  Example:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | ${list1} = | Create List | apple | cherry | banana | | ${list2} = | Create List | cherry | banana | apple | | Lists Should Be Equal | ${list1} | ${list2} | ignore\_order=True |  | |
| **[Log Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Log%20Dictionary" \o "Link to this keyword)** | *dictionary*, *level=INFO* | Logs the size and contents of the dictionary using given level.  Valid levels are TRACE, DEBUG, INFO (default), and WARN.  If you only want to log the size, use keyword *Get Length* from the BuiltIn library. |
| **[Log List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Log%20List" \o "Link to this keyword)** | *list\_*, *level=INFO* | Logs the length and contents of the list using given level.  Valid levels are TRACE, DEBUG, INFO (default), and WARN.  If you only want to the length, use keyword *Get Length* from the BuiltIn library. |
| **[Pop From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Pop%20From%20Dictionary" \o "Link to this keyword)** | *dictionary*, *key*, *default=* | Pops the given key from the dictionary and returns its value.  By default the keyword fails if the given key cannot be found from the dictionary. If optional default value is given, it will be returned instead of failing.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${val}= | Pop From Dictionary | ${D3} | b |   =>  ${val} = 2  ${D3} = {'a': 1, 'c': 3}  New in Robot Framework 2.9.2. |
| **[Remove Duplicates](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Remove%20Duplicates" \o "Link to this keyword)** | *list\_* | Returns a list without duplicates based on the given list.  Creates and returns a new list that contains all items in the given list so that one item can appear only once. Order of the items in the new list is the same as in the original except for missing duplicates. Number of the removed duplicates is logged. |
| **[Remove From Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Remove%20From%20Dictionary" \o "Link to this keyword)** | *dictionary*, *\*keys* | Removes the given keys from the dictionary.  If the given key cannot be found from the dictionary, it is ignored.  Example:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Remove From Dictionary | ${D3} | b | x | y |   =>  ${D3} = {'a': 1, 'c': 3} |
| **[Remove From List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Remove%20From%20List" \o "Link to this keyword)** | *list\_*, *index* | Removes and returns the value specified with an index from list.  Index 0 means the first position, 1 the second and so on. Similarly, -1 is the last position, -2 the second last, and so on. Using an index that does not exist on the list causes an error. The index can be either an integer or a string that can be converted to an integer.  Example:   |  |  |  |  | | --- | --- | --- | --- | | ${x} = | Remove From List | ${L2} | 0 |   =>  ${x} = 'a'  ${L2} = ['b'] |
| **[Remove Values From List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Remove%20Values%20From%20List" \o "Link to this keyword)** | *list\_*, *\*values* | Removes all occurrences of given values from list.  It is not an error if a value does not exist in the list at all.  Example:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Remove Values From List | ${L4} | a | c | e | f |   =>  ${L4} = ['b', 'd'] |
| **[Reverse List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Reverse%20List" \o "Link to this keyword)** | *list\_* | Reverses the given list in place.  Note that the given list is changed and nothing is returned. Use [*Copy List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Copy%20List) first, if you need to keep also the original order.   |  |  | | --- | --- | | Reverse List | ${L3} |   =>  ${L3} = ['c', 'b', 'a'] |
| **[Set List Value](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Set%20List%20Value" \o "Link to this keyword)** | *list\_*, *index*, *value* | Sets the value of list specified by index to the given value.  Index 0 means the first position, 1 the second and so on. Similarly, -1 is the last position, -2 second last, and so on. Using an index that does not exist on the list causes an error. The index can be either an integer or a string that can be converted to an integer.  Example:   |  |  |  |  | | --- | --- | --- | --- | | Set List Value | ${L3} | 1 | xxx | | Set List Value | ${L3} | -1 | yyy |   =>  ${L3} = ['a', 'xxx', 'yyy'] |
| **[Set To Dictionary](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Set%20To%20Dictionary" \o "Link to this keyword)** | *dictionary*, *\*key\_value\_pairs*, *\*\*items* | Adds the given key\_value\_pairs and items to the dictionary.  Giving items as key\_value\_pairs means giving keys and values as separate arguments:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Set To Dictionary | ${D1} | key | value | second | ${2} |   =>  ${D1} = {'a': 1, 'key': 'value', 'second': 2}   |  |  |  |  | | --- | --- | --- | --- | | Set To Dictionary | ${D1} | key=value | second=${2} |   The latter syntax is typically more convenient to use, but it has a limitation that keys must be strings.  If given keys already exist in the dictionary, their values are updated. |
| **[Should Contain Match](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Should%20Contain%20Match" \o "Link to this keyword)** | *list*, *pattern*, *msg=None*, *case\_insensitive=False*, *whitespace\_insensitive=False* | Fails if pattern is not found in list.  By default, pattern matching is similar to matching files in a shell and is case-sensitive and whitespace-sensitive. In the pattern syntax, \* matches to anything and ? matches to any single character. You can also prepend glob= to your pattern to explicitly use this pattern matching behavior.  If you prepend regexp= to your pattern, your pattern will be used according to the Python [re module](http://docs.python.org/library/re.html) regular expression syntax. Important note: Backslashes are an escape character, and must be escaped with another backslash (e.g. regexp=\\d{6} to search for \d{6}). See *BuiltIn.Should Match Regexp* for more details.  If case\_insensitive is given a true value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)), the pattern matching will ignore case.  If whitespace\_insensitive is given a true value (see [*Boolean arguments*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Boolean%20arguments)), the pattern matching will ignore whitespace.  Non-string values in lists are ignored when matching patterns.  Use the msg argument to override the default error message.  See also Should Not Contain Match.  Examples:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Should Contain Match | ${list} | a\* |  |  | # Match strings beginning with 'a'. | | Should Contain Match | ${list} | regexp=a.\* |  |  | # Same as the above but with regexp. | | Should Contain Match | ${list} | regexp=\\d{6} |  |  | # Match strings containing six digits. | | Should Contain Match | ${list} | a\* | case\_insensitive=True |  | # Match strings beginning with 'a' or 'A'. | | Should Contain Match | ${list} | ab\* | whitespace\_insensitive=yes |  | # Match strings beginning with 'ab' with possible whitespace ignored. | | Should Contain Match | ${list} | ab\* | whitespace\_insensitive=true | case\_insensitive=true | # Same as the above but also ignore case. | |
| **[Should Not Contain Match](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Should%20Not%20Contain%20Match" \o "Link to this keyword)** | *list*, *pattern*, *msg=None*, *case\_insensitive=False*, *whitespace\_insensitive=False* | Fails if pattern is found in list.  Exact opposite of [*Should Contain Match*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Should%20Contain%20Match) keyword. See that keyword for information about arguments and usage in general. |
| **[Sort List](http://robotframework.org/robotframework/latest/libraries/Collections.html" \l "Sort%20List" \o "Link to this keyword)** | *list\_* | Sorts the given list in place.  Sorting fails if items in the list are not comparable with each others. On Python 2 most objects are comparable, but on Python 3 comparing, for example, strings with numbers is not possible.  Note that the given list is changed and nothing is returned. Use [*Copy List*](http://robotframework.org/robotframework/latest/libraries/Collections.html#Copy%20List) first, if you need to keep also the original order. |

Altogether 43 keywords.  
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