

Aus dem Maxima-Handbuch

Figure 1:

Maxima can search the info pages. Use the `describe` command to show information about the command or all the commands and variables containing a string. The question mark `?` (exact search) and double question mark `??` (inexact search) are abbreviations for `describe`:



```
? integrate
erklärt genau die Möglichkeiten von integrate.

?? integ erklärt alles, was "integ" enthält
```

Figure 2:

```
-- Function: askinteger (<expr>, integer)
-- Function: askinteger (<expr>)
-- Function: askinteger (<expr>, even)
-- Function: askinteger (<expr>, odd)
```

```
(%i41) askinteger(3.4, integer); askinteger(3, integer);
      askinteger(3, even); askinteger(3, odd);
rat: replaced 3.4 by 17/5 = 3.4
(%o41) no
(%o42) yes
(%o43) no
(%o44) yes
```

Figure 3:

```
-- Function: integer_partitions (<n>)
-- Function: integer_partitions (<n>, <len>)
Returns integer partitions of <n>, that is, lists of integers
which sum to <n>.
`integer_partitions(<n>)' returns the set of all partitions of the
integer <n>. Each partition is a list sorted from greatest to
least.
`integer_partitions(<n>, <len>)' returns all partitions that have
length <len> or less; in this case, zeros are appended to each
partition with fewer than <len> terms to make each partition have
exactly <len> terms. Each partition is a list sorted from
greatest to least.
```

```
(%i45) integer_partitions(3);
(%o45) {[1, 1, 1], [2, 1], [3]}
```

```
(%i46) s:integer_partitions(25)$cardinality(s);
(%o47) 1958
```

```
(%i48) integer_partitions(4);
(%o48) {[1, 1, 1, 1], [2, 1, 1], [2, 2], [3, 1], [4]}
```

```
(%i49) integer_partitions(4, 2);
(%o49) {[2, 2], [3, 1], [4, 0]}
```

Figure 4:

```
-- Function: integerp (<expr>)
Returns `true' if <expr> is a literal numeric integer, otherwise
`false'.
`integerp' returns `false' if its argument is a symbol, even if
the argument is declared integer.
```

```
(%i50) integerp(0);integerp(1);integerp(-17);
(%o50) true
(%o51) true
(%o52) true
```

```
(%i53) integerp(%pi);integerp(x);
(%o53) false
(%o54) false
```

Figure 5:

```
-- Function: nonnegintegerp (<n>)
Return `true' if and only if ` $n \geq 0$ ' and <n> is an integer.
```

```
(%i55) n(x):=nonnegintegerp(x);
(%o55) n(x):=nonnegintegerp(x)
```

```
(%i56) n(1);n(-1);n(2);n(2.5);n(-2.5);
(%o56) true
(%o57) false
(%o58) true
(%o59) false
(%o60) false
```