

# AWK built-in functions

AWK has the mathematical functions like `exp`, `log`, `sqrt`, `sin`, `cos`, `atan2`, etc. built-in, other built-in functions are:

- `length` the length of its argument taken as a string, or of `$0` if no argument.
- `rand` random number between `0` and `1`
- `srand` sets seed for `rand` and returns the previous seed.
- `int` truncates to an integer value
- `substr(s, m, n)` the `n`-character substring of `s` that begins at position `m` counted from `1`.
- `index(s, t)` the position in `s` where the string `t` occurs, or `0` if it does not.
- `match(s, r)` the position in `s` where the regular expression `r` occurs, or `0` if it does not. The variables `RSTART` and `RLENGTH` are set to the position and length of the matched string.
- `split(s, a, fs)` splits the string `s` into array elements `a[1]`, `a[2]`, ..., `a[n]`, and returns `n`. The separation is done with the regular expression `fs` or with the field separator `FS` if `fs` is not given. An empty string as field separator splits the string into one array element per character.
- `sub(r, t, s)` substitutes `t` for the first occurrence of the regular expression `r` in the string `s`. If `s` is not given, `$0` is used.
- `gsub` same as `sub` except that all occurrences of the regular expression are replaced; `sub` and `gsub` return the number of replacements.
- `sprintf(fmt, expr, ...)` the string resulting from formatting `expr ...` according to the `printf` format `fmt`.
- `system(cmd)` executes `cmd` and returns its exit status.
- `tolower(str)` returns a copy of `str` with all upper-case characters translated to their corresponding lower-case equivalents.

- `toupper(str)` returns a copy of `str` with all lower-case characters translated to their corresponding upper-case equivalents.