while — while (exp) stmt

Description

while executes stmt or stmts zero or more times. The loop continues as long as exp is not equal to zero.

Syntax

while (exp) stmt

while (exp) {
    stmts
}

where exp must evaluate to a real scalar.

Remarks and examples

To understand while, enter the following program

function example(n)
{
    i = 1
    while (i<=n) {
        printf("i=%g\n", i)
        i++
    }
    printf("done\n")
}

and run example(3), example(2), example(1), example(0), and example(-1).

One common use of while is to loop until convergence:

while (mreldif(a, lasta)>1e-10) {
    lasta = a
    a = ...
}
Also see

[M-2] **break** — Break out of for, while, or do loop

[M-2] **continue** — Continue with next iteration of for, while, or do loop

[M-2] **do** — do . . . while (exp)

[M-2] **for** — for (exp1; exp2; exp3) stmt

[M-2] **Semicolons** — Use of semicolons

[M-2] **Intro** — Language definition