```
hookejeeves <- function (f,x,step,alpha,tol) {
	while (step >= tol) {
		xb <- x
		x <- trial_stage(f,xb,step)
		if (f(x) < f(xb)) {
			while (f(x) < f(xb)) {
				old.xb <- xb
				xb <- x
				x <- 2*xb-old.xb
				x <- trial_stage(f,x,step)
			}
			x <- xb
		} else {
			step <- alpha * step
		}
	}
	return(xb)
}

trial_stage <- function (f,x,step) {
	n <- length(x)
	versor <- diag(n)
	i <- 1
	while (i <= n) {
		if (f(x + step*versor[i,]) < f(x)) {
			x <- x + step*versor[i,]
		} else if (f(x - step*versor[i,]) < f(x)) {
			 x <- x - step*versor[i,]
		}
		i <- i + 1
	}
	return(x)
}
```