

```

1  -- standard load and start functions
2  -- first line of code should be a help string (e.g. see tiny.lua)
3  -- last line of code should call this code, pass in table of actions
4  -- e.g
5  --     the(go)
6
7  -----
8  -- at load time, remember the current globals
9  local b4={}; for k,_ in pairs(_ENV) do b4[k]=k end
10 -- after start time, complain if code has created rogue globals
11 local function rogues()
12   for k,v in pairs(_ENV) do if not b4[k] then print("?:",k,type(v)) end end end
13
14 -----
15 -- Misc support functions. Nothing very exciting.
16 -- table keys, in sorted order
17 local function keys(t,u)
18   u={}; for k,_ in pairs(t) do u[1+#u]=k end; table.sort(u); return u end
19
20 -- pretty colors, n={31,32},=(red,green)
21 local function color(n,s) return string.format("%27[1m%27[5m%$s%27[0m",n,s) end
22
23 -- shallow copy of a list
24 local function copy(t, u)
25   u={}; for k,v in pairs(t) do u[k]=v end; return u end
26
27 -- coerce strings to nums
28 function string2value(x)
29   if x=="false" then return false end
30   if x=="true" then return true end
31   return tonumber(x) or x end
32
33 -----
34 -- More interesting stuff to handle load and start
35 local help="" -- place to store the help text
36
37 -- if "-flag" matches to something on the command line, then update flag's value
38 local function updateFlagFromCommandLine(flag,x)
39   for n,word in ipairs(arg) do
40     if flag:match("^"..word:sub(2)..".**") then
41       -- flip boolean defaults
42       x= (x=="false" and "true") or (x=="true" and "false") or arg[n+1] end end
43   return string2value(x) end
44
45 -- all the start-up action:
46 -- [1] keep a copy of the options as "defaults"
47 -- [2] maybe just show the help text
48 -- [3] maybe run an action in verbose mode (show stackdump; halt on error)
49 -- [4] before actions, reset options to defaults
50 -- [5] before actions, reset random number seed
51 -- [6] maybe run an action in fast mode (no stackdumps; no halts one errors)
52 -- [7] for fast mode, count the number of failures
53 -- [8] return to the operating system the count of failures
54 -- [9] lint the code (right now, we just print rogue globals)
55 local function what2doAtLastLine(options, actions)
56   local fails, defaults = 0, copy(options) -- [1]
57   if options.h then return print(help) end -- [2]
58   if options.debug then actions[ options.debug ]() end -- [3]
59   local todos = options.todo == "all" and keys(actions) or {options.todo}
60   for _,todo in pairs(todos) do
61     if type(actions[todo]) ~= "function" then return print("NOFUN:",todo) end
62     for k,v in pairs(defaults) do options[k]=v end -- [4]
63     options.seed = options.seed or 10019 -- [5]
64     local ok,msg = pcall( actions[todo] ) -- [6]
65     if not ok then print(color(31,"FAIL"..todo,msg) -- [6] [7]
66                       fails=fails+1 end
67   end
68   rogues() -- [9]
69   os.exit(fails) end -- [8]
70
71 local function what2doAtFirstLine(txt)
72   local options={}
73   help = txt
74   txt:gsub("^*OPTIONS:", ""):gsub("%s*~([%s]+)[\n]*%s*([%s]+)",
75   function(flag,x) options[flag] = updateFlagFromCommandLine(flag,x) end)
76   return setmetatable(options, {_call=what2doAtLastLine}) end
77
78 return what2doAtFirstLine

```