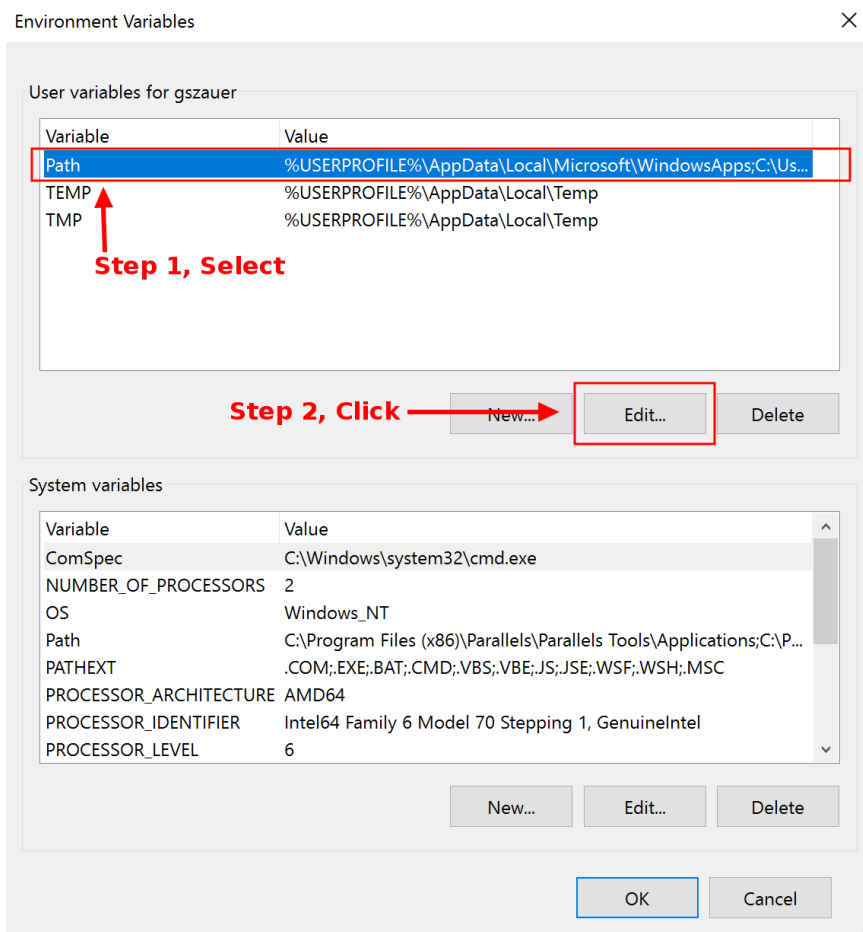
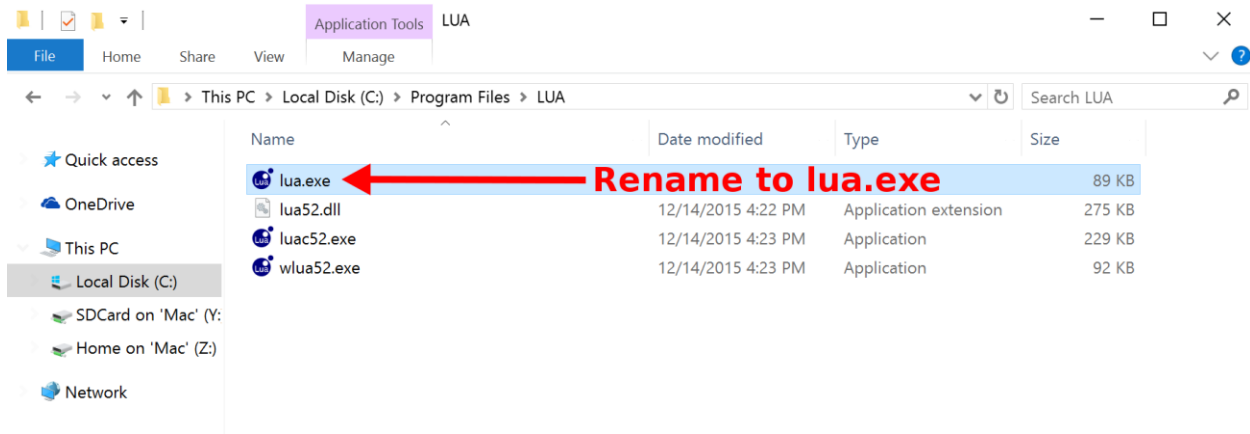


Chapter 1: Introduction to Lua

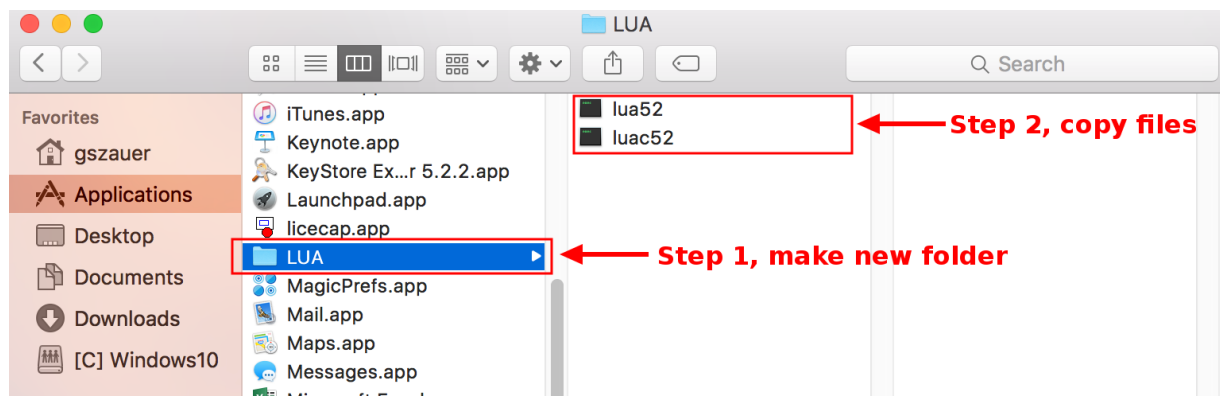
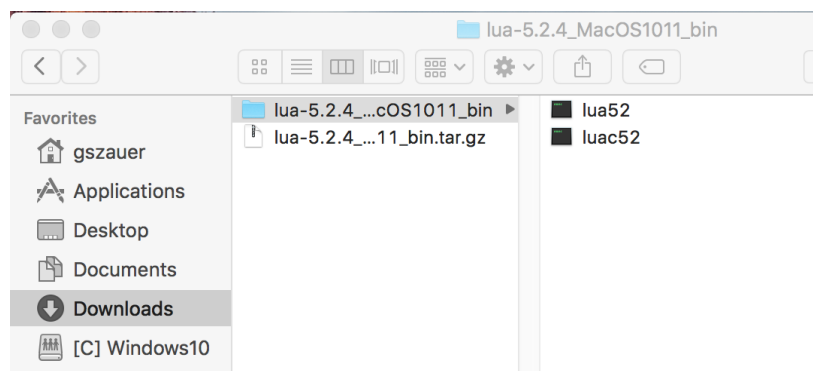


```
Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\gszauer>lua -v
Lua 5.2.4 Copyright (C) 1994-2015 Lua.org, PUC-Rio

C:\Users\gszauer>
```

← Type: 'lua -v' and hit <enter>



```
gszauer — nano — sudo — 80x24
GNU nano 2.0.6      File: /etc/paths      Modified

/usr/local/bin
/usr/bin
/bin
/usr/sbin
/sbin

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

```
gszauer — nano — sudo — 80x24
GNU nano 2.0.6      File: /etc/paths      Modified

/usr/local/bin
/usr/bin
/bin
/usr/sbin
/sbin
~/Documents/LUA ← Add this line

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

```
gszauer — -bash — 80x24
Last login: Thu May 17 11:31:53 on ttvs000
macbook-pro-4:~ gszauer$ lua -v
Lua 5.2.4 Copyright (C) 1994-2015 Lua.org, PUC-Rio
macbook-pro-4:~ gszauer$
```

```
parallels@ubuntu: ~
parallels@ubuntu:~$ sudo apt-get install lua5.2
```

```

parallels@ubuntu: ~
File Edit View Search Terminal Help
parallels@ubuntu:~$ sudo apt-get install lua5.2
[sudo] password for parallels:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  lua5.2
0 upgraded, 1 newly installed, 0 to remove and 149 not upgraded.
Need to get 95.6 kB of archives.
After this operation, 349 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu xenial/main amd64 lua5.2 amd64 5.2.4-1
ubuntu1 [95.6 kB]
Fetched 95.6 kB in 0s (245 kB/s)
Selecting previously unselected package lua5.2.
(Reading database ... 205222 files and directories currently installed.)
Preparing to unpack .../lua5.2_5.2.4-1ubuntu1_amd64.deb ...
Unpacking lua5.2 (5.2.4-1ubuntu1) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up lua5.2 (5.2.4-1ubuntu1) ...
update-alternatives: using /usr/bin/lua5.2 to provide /usr/bin/lua (lua-interpre
ter) in auto mode
update-alternatives: using /usr/bin/luac5.2 to provide /usr/bin/luac (lua-compil
er) in auto mode
parallels@ubuntu:~$

```

```

parallels@ubuntu: ~
File Edit View Search Terminal Help
parallels@ubuntu:~$ lua -v
Lua 5.2.4 Copyright (C) 1994-2015 Lua.org, PUC-Rio
parallels@ubuntu:~$

```

```

Untitled - Notepad
File Edit Format View Help
function allwords ()
  local line = io.read()  -- current line
  local pos = 1           -- current position in the line
  return function ()      -- iterator function
    while line do         -- repeat while there are lines
      local s, e = string.find(line, "%w+", pos)
      if s then           -- found a word?
        pos = e + 1 -- update next position
        return string.sub(line, s, e) -- return the word
      else
        line = io.read() -- word not found; try next line
        pos = 1          -- restart from first position
      end
    end
    return nil           -- no more lines: end of traversal
  end
end
end

```

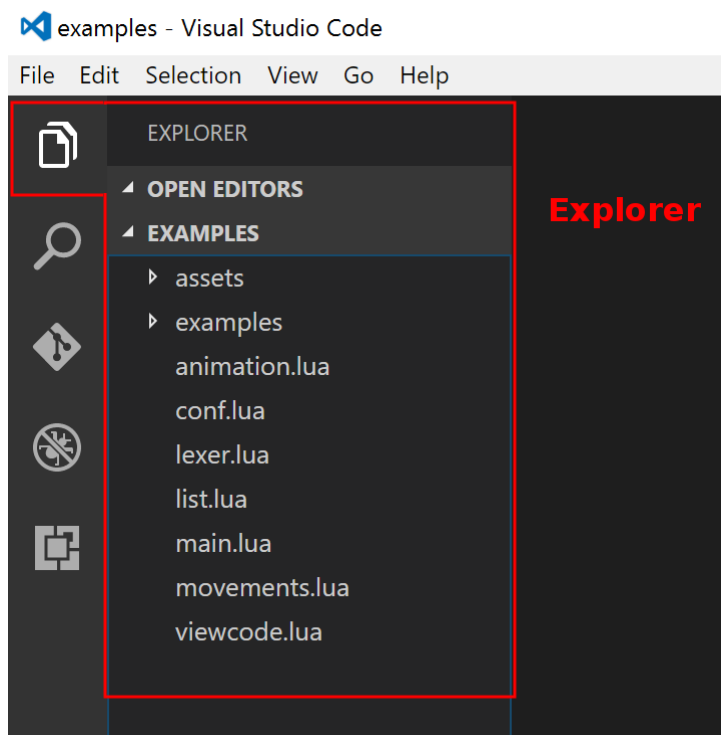
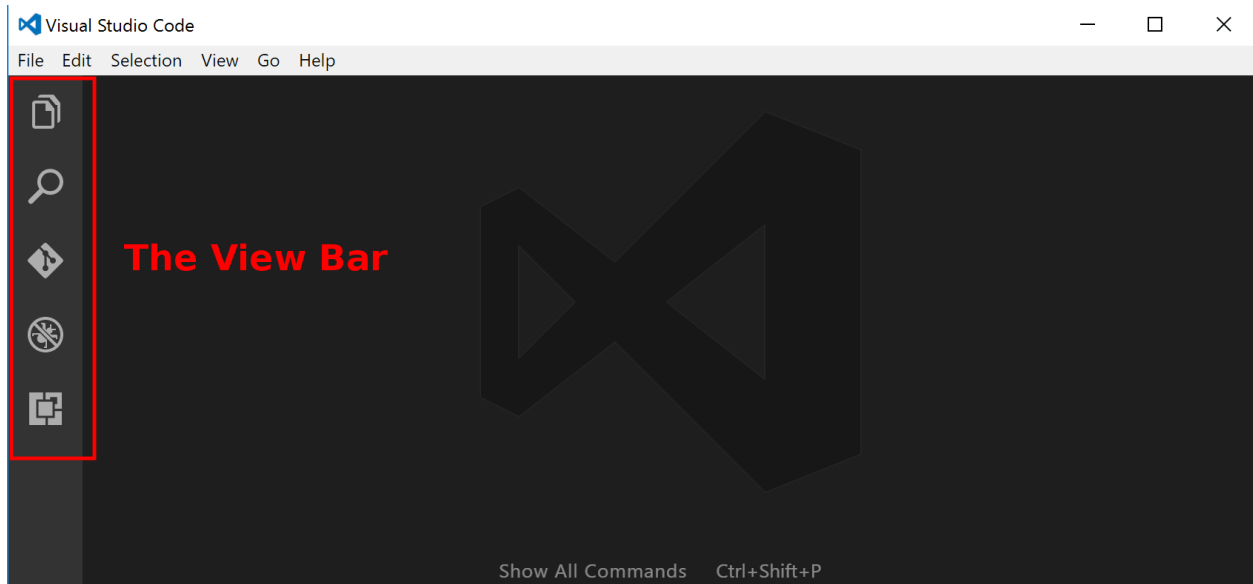
Notepad

```

Untitled-1 - Visual Studio Code
File Edit Selection View Go Help
Untitled-1
1  function allwords ()
2    local line = io.read()  -- current line
3    local pos = 1           -- current position in the line
4    return function ()      -- iterator function
5      while line do         -- repeat while there are lines
6        local s, e = string.find(line, "%w+", pos)
7        if s then           -- found a word?
8          pos = e + 1 -- update next position
9          return string.sub(line, s, e) -- return the word
10       else
11         line = io.read() -- word not found; try next line
12         pos = 1          -- restart from first position
13       end
14     end
15     return nil           -- no more lines: end of traversal
16   end
17 end
18
19
20

```

Visual Studio Code



GIT

This workspace isn't yet under git source control.

Initialize Git Repository

Git

Chapter 2: Working with Lua

Assigns the value on the right ("bar")
to variable on the left (foo)

↓

foo = "bar" ← A string value ("bar")

↑

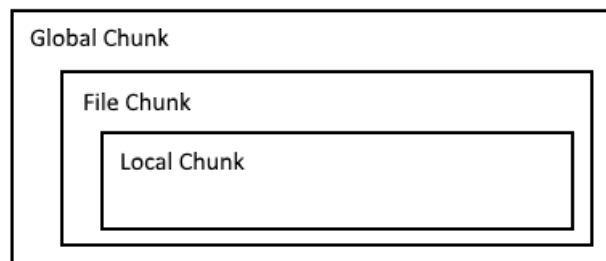
Declares a variable, in this example foo

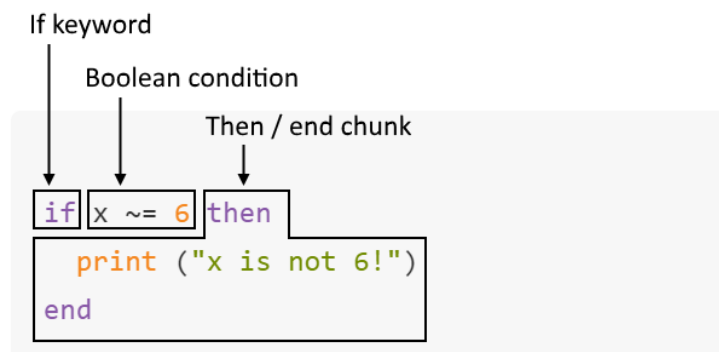
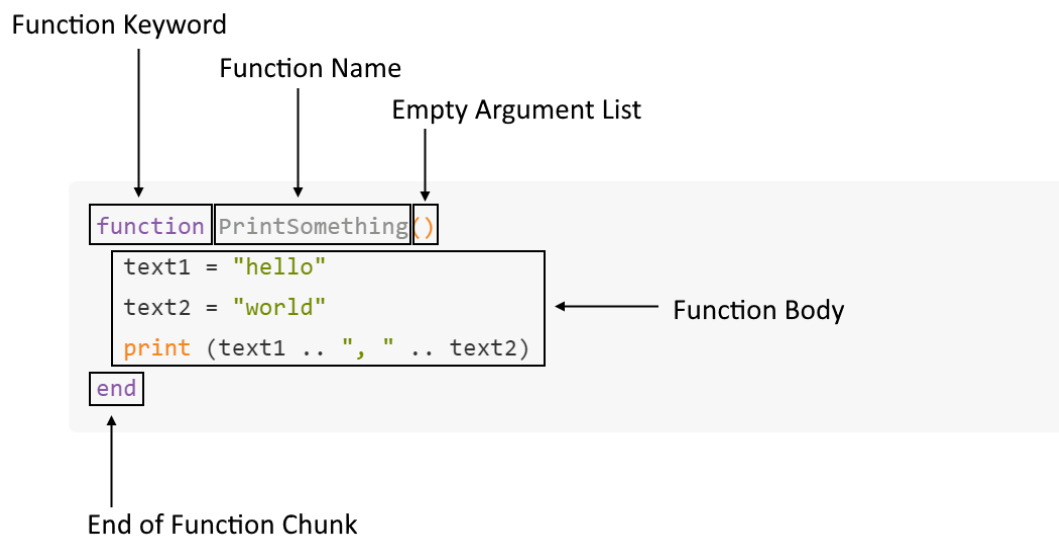
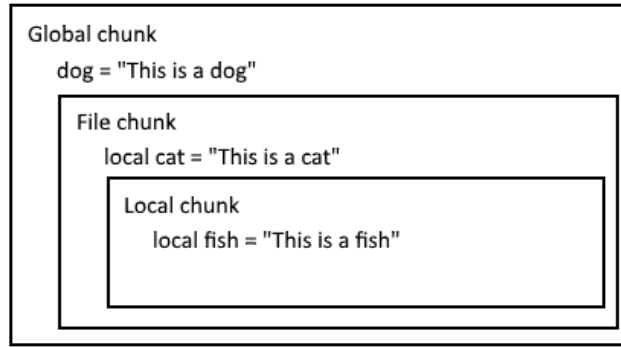
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\gszauer> cd ~/Desktop
PS C:\Users\gszauer\Desktop> lua test.lua
bar
PS C:\Users\gszauer\Desktop> █
```

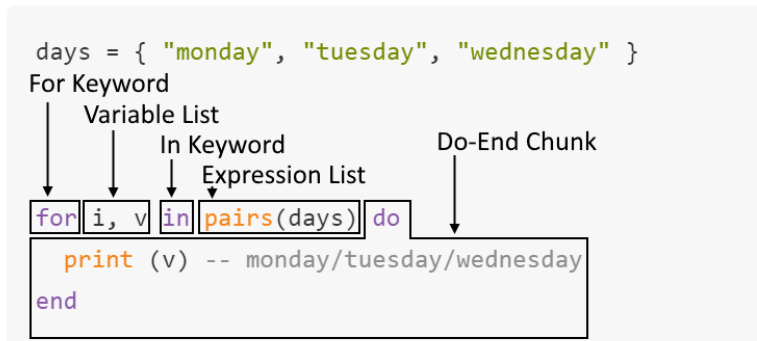
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\gszauer> cd ~/Desktop
PS C:\Users\gszauer\Desktop> lua test.lua
red
green
blue
PS C:\Users\gszauer\Desktop> █
```

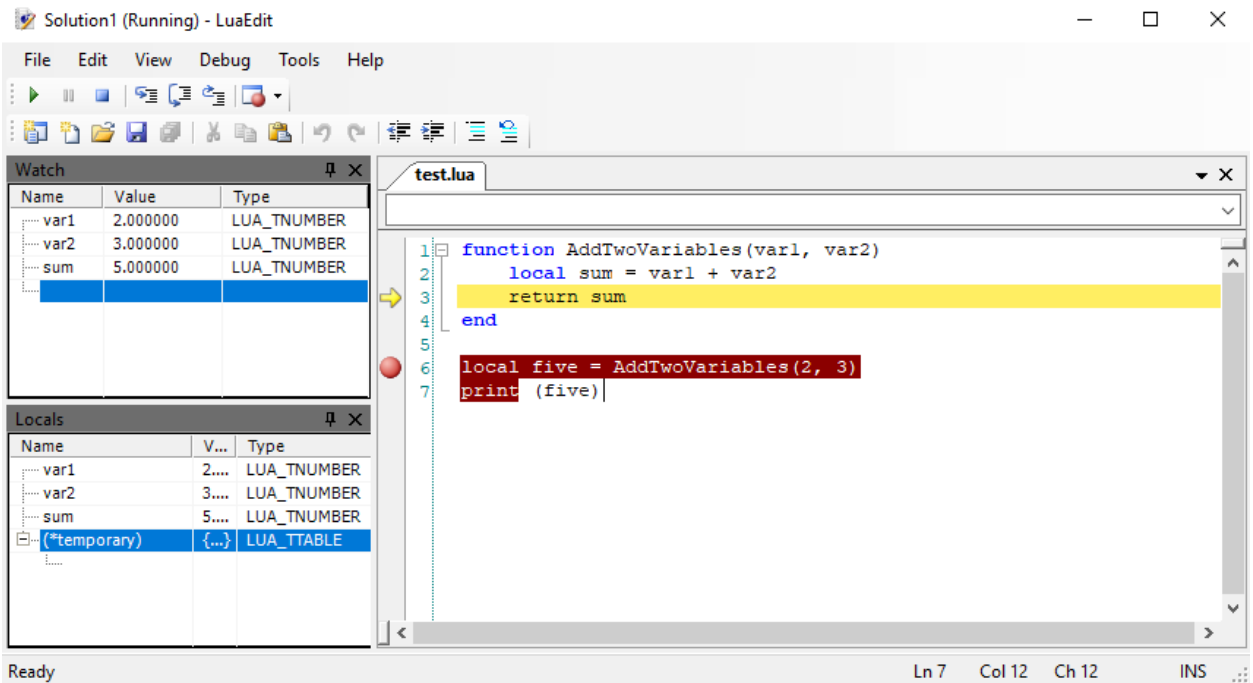
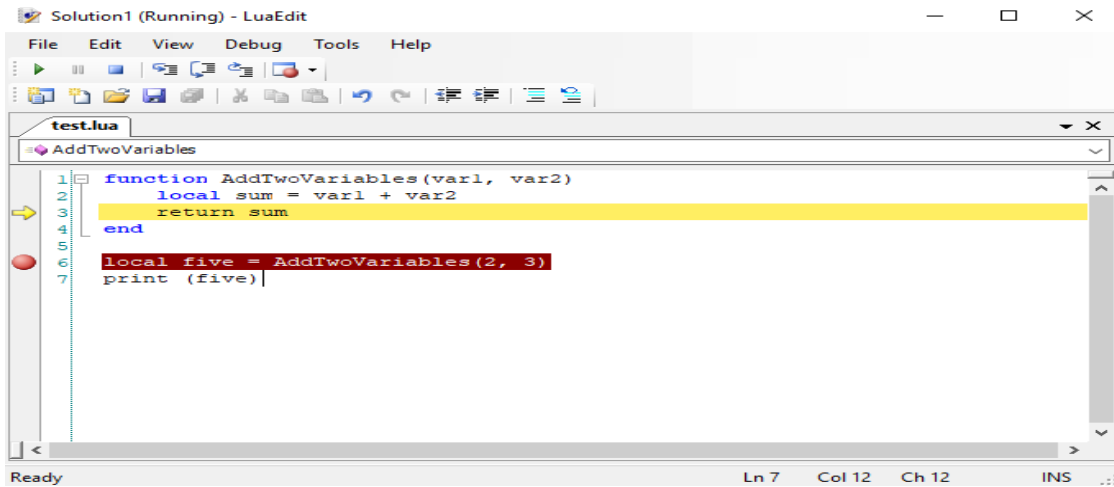


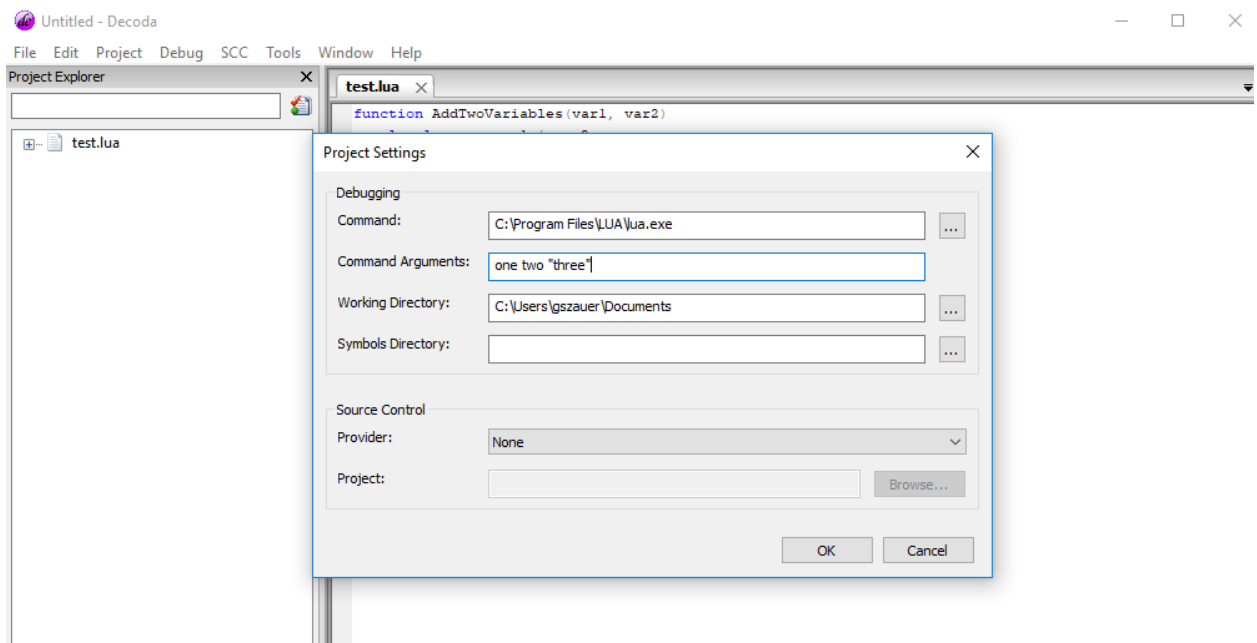
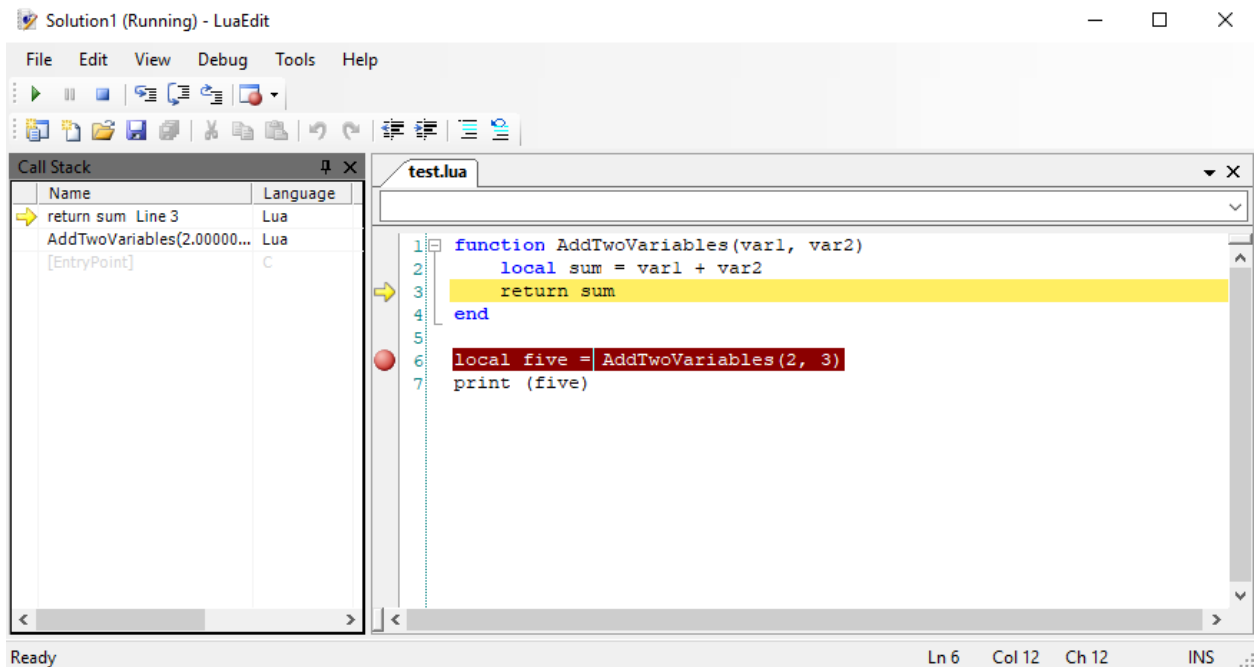


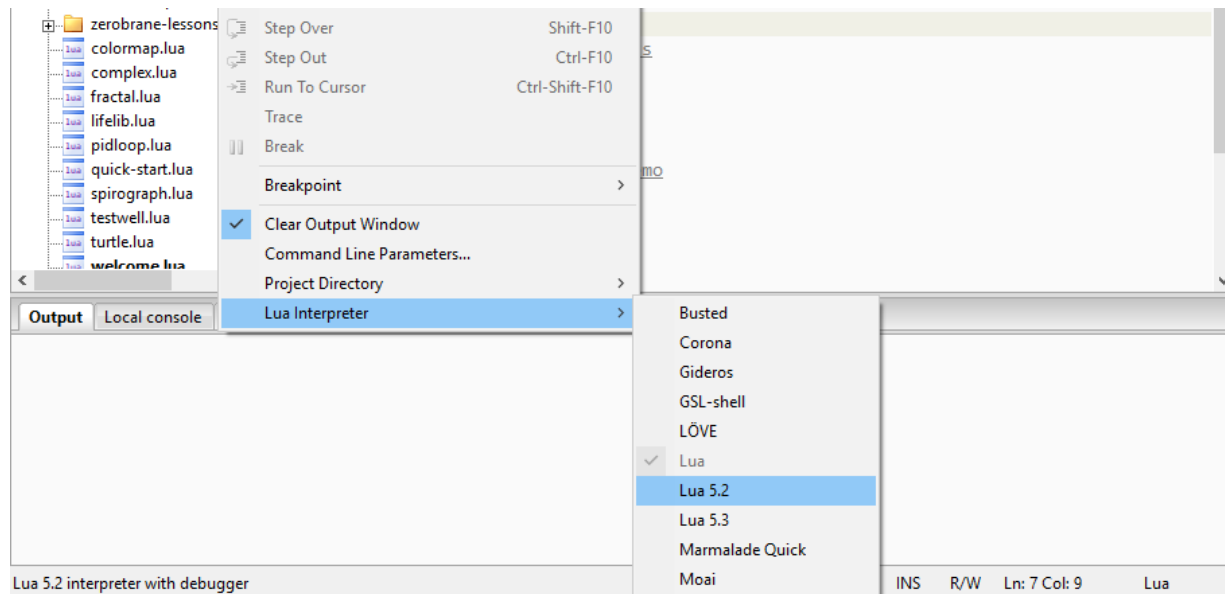
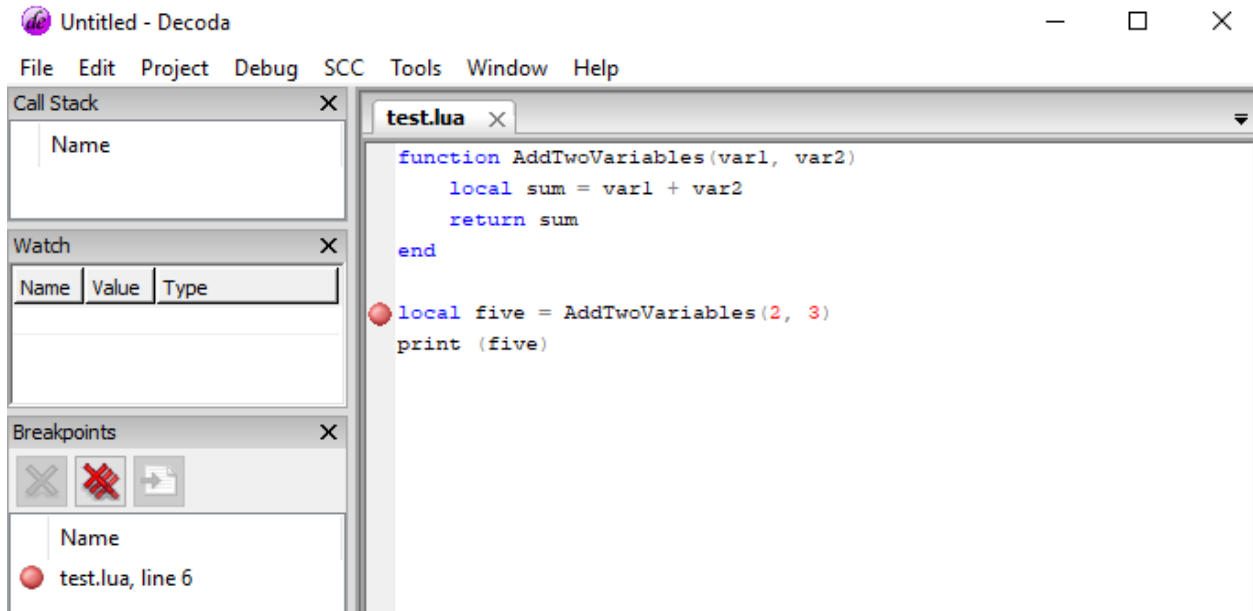
Chapter 3: Tables and Objects



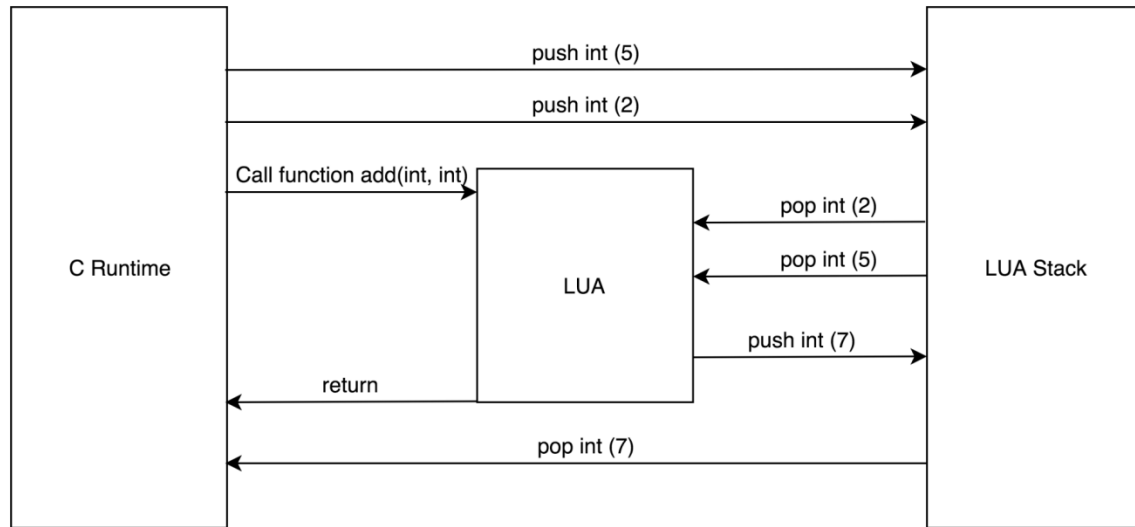
Chapter 5: Debugging Lua







Chapter 6: Embedding Lua



Lua Stack
Item 2, valid indices: 3, -1
Item 1, valid indices: 2, -2
Item 0, valid indices: 1, -3

lua_setfield

```
void lua_setfield (lua_State *L, int index, const char *k);
```

Does the equivalent to `t[k] = v`, where `t` is the value at the given index and `v` is the value at the top of the stack.

This function pops the value from the stack. As in Lua, this function may trigger a metamethod for the "newindex" event (see §2.4).

Stack info → [-1, +0, 0]