手寫作業week7 戴偉璿

第一題

(B)(C)

第二題

a.

他直接將函式內定義的代碼插入函式中。這樣一來就不用每次都呼叫，自然能結省時間。

b.

每一次遞迴都會傳導引數並且除存地址，多做了許多事情，（比如呼叫n此就要花n次分配$n\times$區域性變數，$n\times$呼叫函式地址、$n\times$返回值）

c.

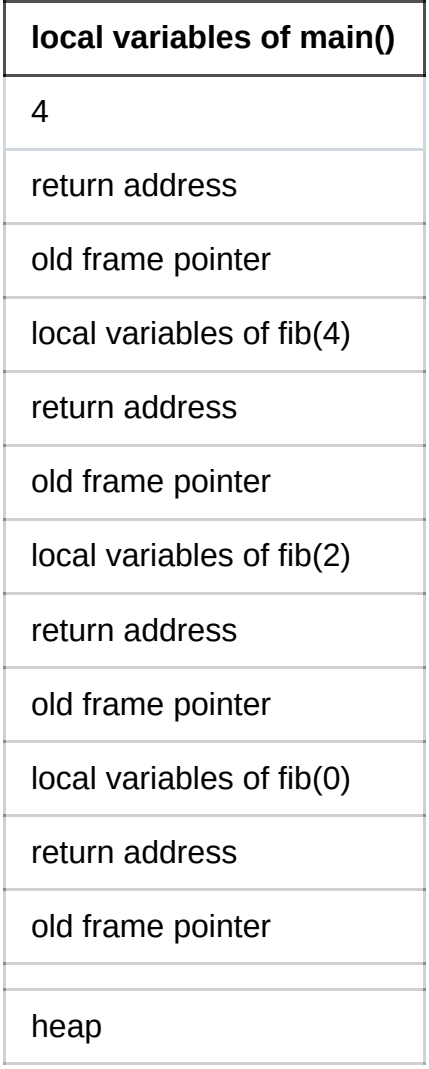
local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(3)
return address
old frame pointer
local variables of fib(2)
return address
old frame pointer
local variables of fib(1)
return address
old frame pointer
heap

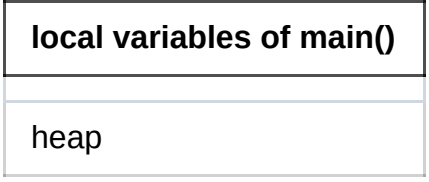
local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(3)
return address
old frame pointer
local variables of fib(2)
return address
old frame pointer
local variables of fib(0)
return address
old frame pointer
heap

local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(3)
return address
old frame pointer
local variables of fib(1)
return address
old frame pointer
heap

local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(2)
return address
old frame pointer
heap

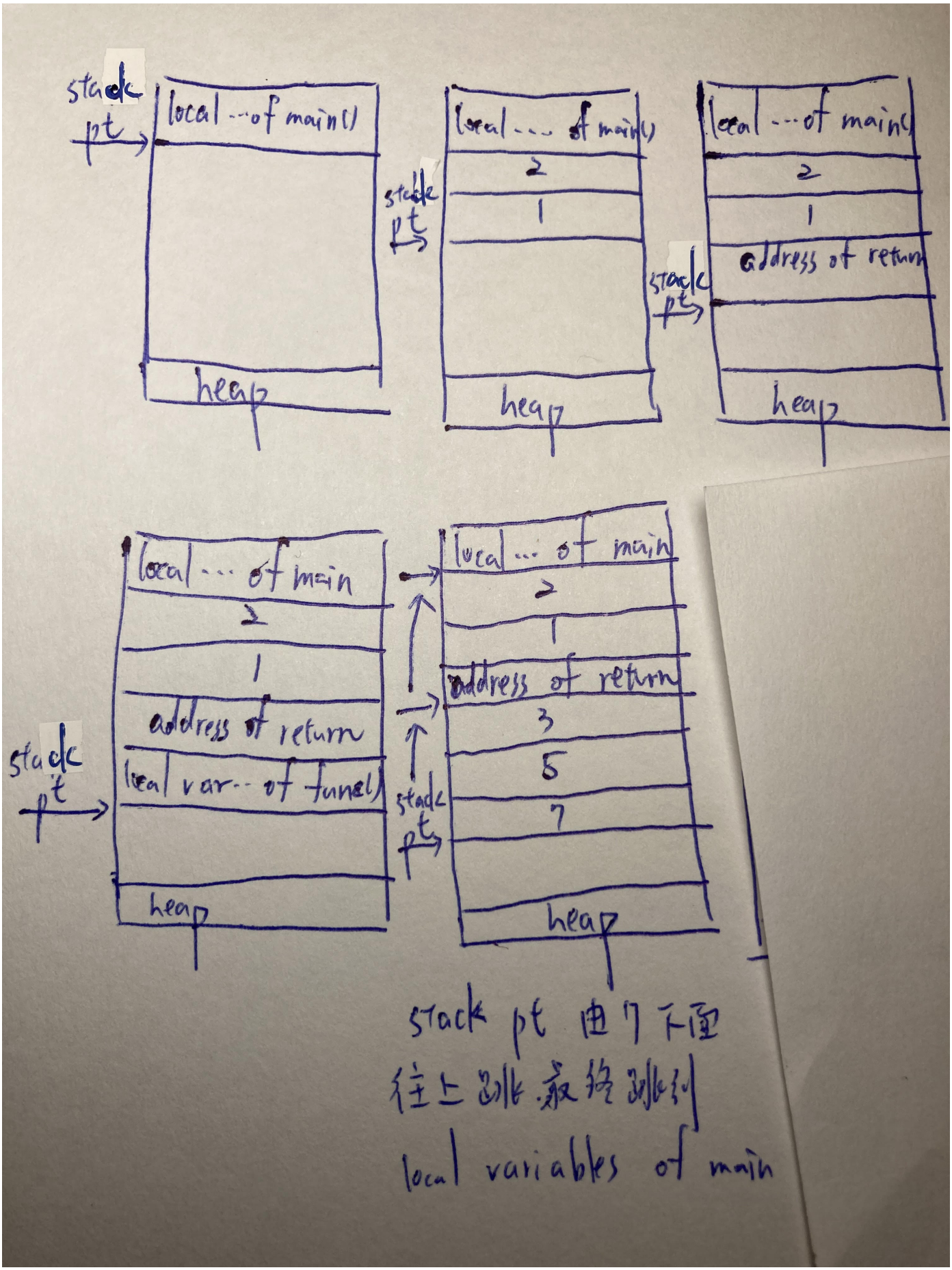
local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(2)
return address
old frame pointer
local variables of fib(1)
return address
old frame pointer
heap


local variables of main()
4
return address
old frame pointer
local variables of fib(4)
return address
old frame pointer
local variables of fib(2)
return address
old frame pointer
local variables of fib(0)
return address
old frame pointer
heap



heap

d.


stack pt
local ... of main()
heap
stack pt
local ... of main()
2
1
heap
stack pt
local ... of main()
2
1
address of return
heap
stack pt
local ... of main
2
1
address of return
local var... of func()
heap
stack pt
local ... of main
2
1
address of return
3
5
7
heap
stack pt 由7下面
往上跳 最终跳到
local variables of main