

第五次作业参考答集

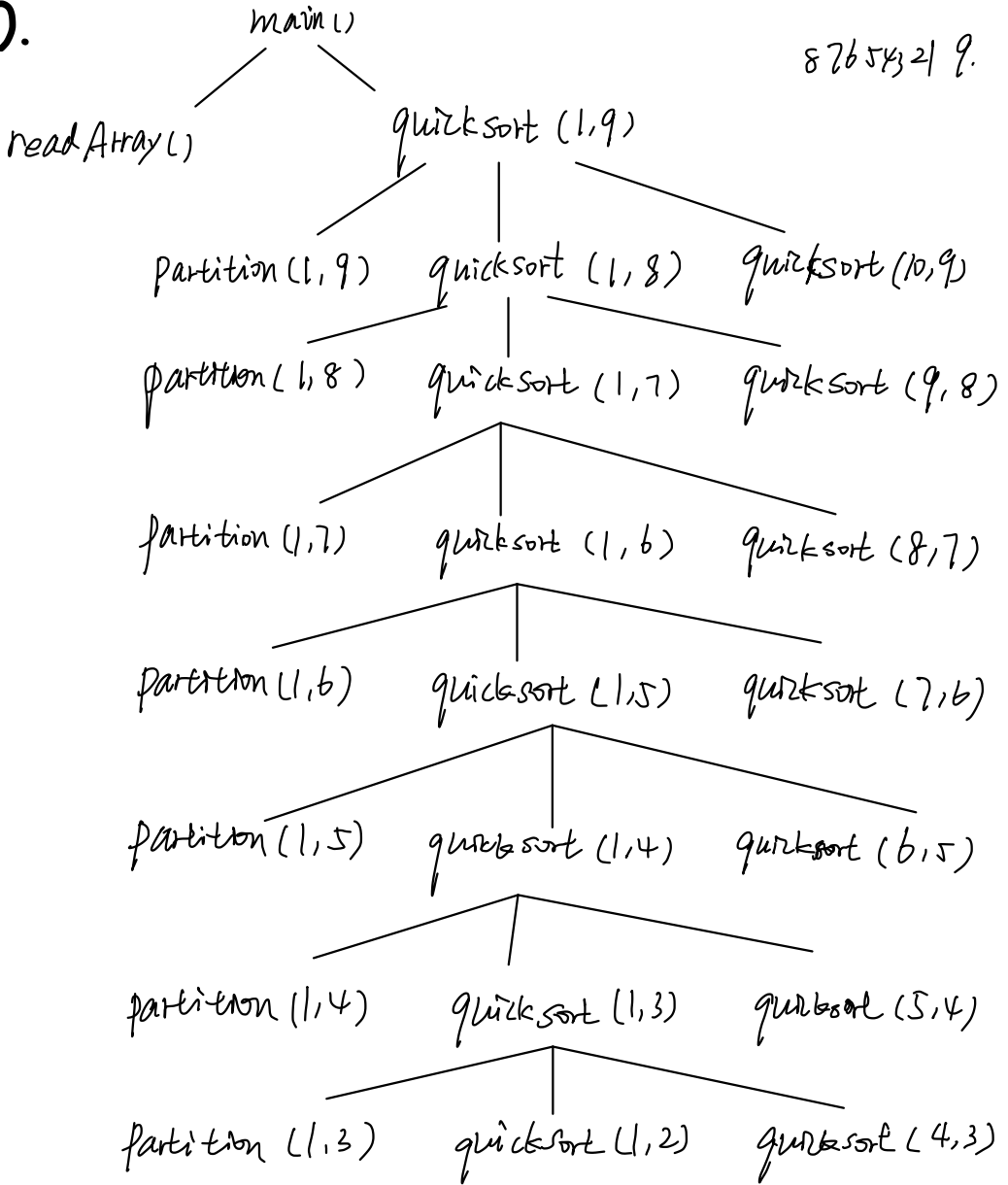
龙书.

7.2.1

(a).

$a_1 = 9$.

8 2 6 5 4 3 2 1 9.

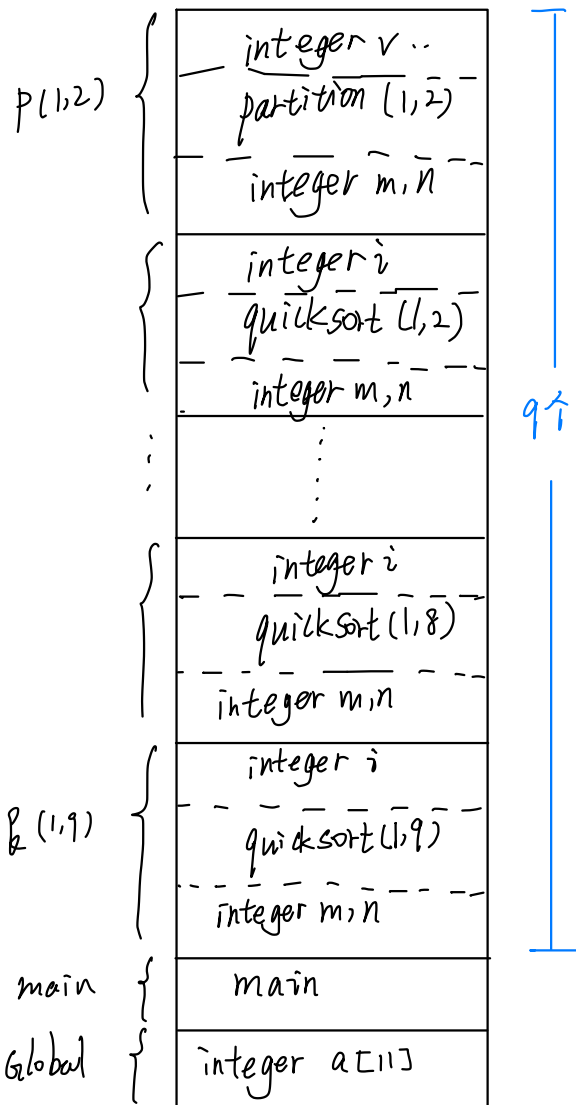


partition (1,2)

quicksort (1,1)

quicksort (3,2)

(b).



这是向上增长的活动记录栈。

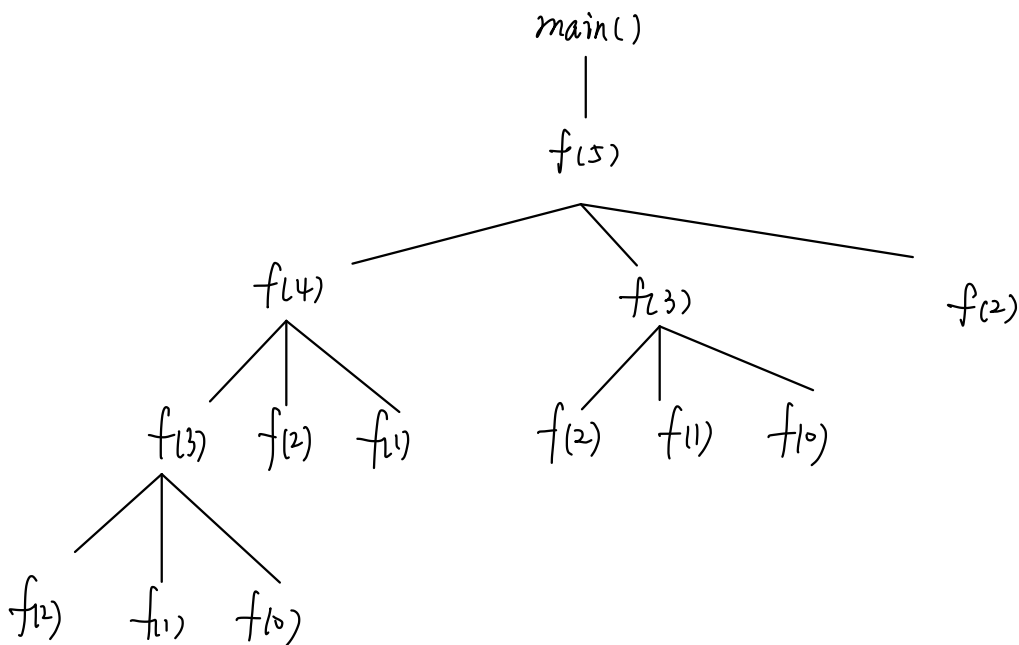
算上全局数据和 main,
共有 11 个活动记录。

活动记录栈可能的情况。

补充练习:

1.

① 活动树.



② `stack map`. (第一次达到最大情况).

(向上增长的活动记录栈)

integer t_1, t_2, t_3, t_4, t
$f(2)$
integer n
integer t_1, t_2, t_3, t_4, t
$f(3)$
integer n
integer t_1, t_2, t_3, t_4, t
$f(4)$
integer n
integer t_1, t_2, t_3, t_4, t
$f(5)$
integer n
main
integer x, y

③. Detailing

$k+1$	y
k	x

Global variable.

$k+5$	Returned Value.
$k+4$	0
$k+3$	Returned Address.
$k+2$	k

main()

k+15	Returned Value.
k+14	t
k+13	t ₄
k+12	t ₃
k+11	t ₂
k+10	t ₁
k+9	n 5
k+8	1
k+7	Returned Address.
k+6	k+2

f(15)

k+25	Returned Value.
k+24	t
k+23	t ₄
k+22	t ₃
k+21	t ₂
k+20	t ₁
k+19	n 4
k+18	1
k+17	Returned Address.
k+16	k+6

f(14)

k+35	Returned Value.
k+34	t
k+33	t ₄
k+32	t ₃
k+31	t ₂
k+30	t ₁
k+29	n 3
k+28	1
k+27	Returned Address.
k+26	k+16

f(13)

k+40	Returned Value.
k+39	n 2
k+38	1
k+37	Returned Address
k+36	k+26

f(12)

2.

① 活动树.

main().

|

f(40,35).

|

f(35,5)

|

f(5,0)

② Stack map. (~~最大~~).

f(5,0)
f(35,5)
f(40,35)
main
integer x,y,z.

(向上增长).

③ detailing.

k+2	z
k+1	y
k	x

Global.

k+6	Returned Value.
k+5	0
k+4	Returned Address.
k+3	k

main

k+14	Returned Value.
k+13	t2
k+12	t1
k+11	n 35
k+10	m 40
k+9	2
k+8	Returned Address
k+7	k+3

f(40,35)

k+28	Returned Value
k+27	n 0
k+26	m 5
k+25	2
k+24	Returned Address
k+23	k+15

f(5,0)

k+22	Returned Value.
k+21	t2
k+20	t1
k+19	n 5
k+18	m 35
k+17	2
k+16	Returned Address
k+15	k+7

f(35,5)