

上海交通大学试卷 (B 卷)

(2019 至 2020 学年 第 1 学期)

班级号 _____ 学号 _____ 姓名 _____

课程名称 _____ 计算机系统基础 (汇编) _____ 成绩 _____

Problem 1

[1] 0101 0000

[2] 1111 1111

[3] 0000

[4] 0000 1000

[5] 0000 0000

[6] 1101 0101

Problem 2

[1] 0xabcdef

[2] 0x183c

[3] 0x45342312 89786756

[4] 0xffffffff ffffffffbb

[5] 0x8090a0b0 c0d0e0f0

[6] 0x183c

[7] 0xf8000000 0fffffffba

[8] 0xffffffff ffffffffbb

[9] 0xffffffff ffffffffec

[10] 0x4020

Problem 3

1. [1] 127

[2] 0xff80

[3] 0x7f7f

[4] 0x807f

2. FP=0xc1a6

sign=0x1

exp=0x83

frac=0x26

Problem 4

1. [1] 24

[2] 24

[3] 8

[4] 0x550000001008

[5] 0x550000001008

[6] 0x550000001008

[7] 0x550000001010

[8] 0x550000001018

我承诺，我将严
格遵守考试纪律。

题号	1	2	3	4	5	6			
得分									
批阅人(流水阅 卷教师签名处)									

2. $5+4=9$

3. Place `"int *loc"` before `"char data[2]"`

Problem 5

1. `$50(50,0x32,'2')`

2. `[1] str[1]`

`[2] result > 0x35(53,'5')?2:result`

`[3] ~result`

`[4] '4'`

`[5] .L5(,%rax,8)`

`[6] nop/NONE/other effectless ins`

`[7] .L6`

3.

str	output
"62"	0x2
"36"	0x65
"54"	0x15
"3791"	0xe7636466

4. Advantage: avoid long sequence of comparison and branch operations thus more efficient.

Limitation: switch statements whose labels are not consecutive or almost consecutive.

Example:

Problem 6

1 [1] B [2] C [3] A

2 No. %rax is NOT a callee-saved register and can be modified by the callee at line 12 "call bar". We need to load the argument g to %al again before add %al and push it on the stack.

3 [4] 0x7fffffffba40 [5] 1

[6] 0x7fffffffba20 [7] 2

[8] 0x7fffffffba40 [9] 2

4 4.a

[10] 17: movb %al, (%rsp) or 21: addq \$8, \$rsp

[11] 17: movb %al, 32(%rsp) or 21: popq 24(%rsp)

4.b

&g is: 0x7fffffffba40, g is: 0

&g is: 0x7fffffffba60, g is: 1

&g is: 0x7fffffffba40, g is: 1

&g is: 0x7fffffffba60, g is: 2

&g is: 0x7fffffffba80, g is: 2