Solution

Problem 1: (12 points)

[1]	11110100	[2]	1000
[3]	11000000	[4]	01111111
[5]	1100	[6]	0010
[7]	00111110	[8]	00000000
[9]	10000000	[10]	11111111
[11]	01111111	[12]	10000000

Problem 2: (10 points)

[1]	%edx	[2]	0x0f0f0f0f
[3]	0x108	[4]	0x00002000
[5]	0x100	[8]	0x0f0f0f0f
[7]	%edx	[9]	0x110
[9]	%eax	[10]	0x00000101

Problem 3: (20 points)

1	[1]	67		[2]	45			
	[3]	11	[4]	11	[5]	00	[6]	00
	[7]	ff	[8]	00	[9]	22	[10]	22
2	[1]	01		[2]	23			
	[3]	11	[4]	00	[5]	00	[6]	00
	[7]	00	[8]	ff	[9]	22	[10]	22

Problem 4: (14 points)

[1]	0x8049618	[2]	0x8049600
[3]	0x8049604	[4]	0x804960a
[5]	0x8049610	[6]	0x8049610
[7]	0x8049614		

Problem 5: (21 points)

1

[1]	82	[2]	84	[3]	87
[4]	a < b	[5]	a - 3	[6]	b * 4
[7]	L5	[8]	L6	[9]	L6
[10]	$80	[11]	$7	[12]	L2
[13]	*L7(,%eax,4)			[14]	L9

2 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: (23 points)

1

[1]	0xbffff400	[2]	0xbffff3d0
[3]	0xbffff428	[4]	0xbffff3f8

2

[1]	--	[2]	0xbffff4a8
[3]	--	[4]	0x3
[5]	0x4	[6]	0xbffff418
[7]	0xbffff41c	[8]	0x0804842e
[9]	0xbffff428	[10]	0xbffff3e8
[11]	0xbffff3e4	[12]	0xbffff3e0

3 字符串首地址为 0xbffff3e0，存储 foo 函数返回地址的栈单元地址为 0xbffff3fc (大致意思回答对即可，不需要详细写明过程)