

# Princeton University

## COS 217: Introduction to Programming Systems

### Assembler Output for 13testpass2call.s

After Pass 1:

#### Symbol Table

Label	Section	Byte Offset	Local/Global	Label Sequence #
labelLocal0	text	2	local	0
labelGlobal	text	6	global	1
labelLocal1	text	35	local	2
labelUndefined	?	?	global	3
labelInDiffSection	data	0	local	4

#### Relocation Records

Section	Byte Offset	Relocation Type	Label Sequence #
text	9	R_386_PC32	0
text	14	R_386_PC32	2
text	19	R_386_PC32	1
text	24	R_386_PC32	3
text	29	R_386_PC32	4

#### Data Section

Byte Offset	Contents (hex)	Explanation
0	6a	.asciz "junk"
1	75	
2	6e	
3	6b	
4	00	

#### Text Section

Byte Offset	Contents (hex)	Explanation
0-1	01 c0	addl %eax, %eax
2-3	01 c0	addl %eax, %eax
4-5	01 c0	addl %eax, %eax
6-7	01 c0	addl %eax, %eax
8-12	e8 fc ff ff ff	call labelLocal0 (fffffffc in hexadecimal is -4 in decimal)
13-17	e8 fc ff ff ff	call labelLocal1 (fffffffc in hexadecimal is -4 in decimal)
18-22	e8 fc ff ff ff	call labelGlobal (fffffffc in hexadecimal is -4 in decimal)
23-27	e8 fc ff ff ff	call labelUndefined (fffffffc in hexadecimal is -4 in decimal)
28-32	e8 fc ff ff ff	call labelInDiffSection (fffffffc in hexadecimal is -4 in decimal)
33-34	01 c0	addl %eax, %eax
35-36	01 c0	addl %eax, %eax

After Pass 2:

### Symbol Table

Label	Section	Byte Offset	Local/Global	Label Sequence #
labelLocal0	text	2	local	0
labelGlobal	text	6	global	1
labelLocal1	text	35	local	2
labelUndefined	?	?	global	3
labelInDiffSection	data	0	local	4

### Relocation Records

Section	Byte Offset	Relocation Type	Label Sequence #
text	19	R_386_PC32	1
text	24	R_386_PC32	3
text	29	R_386_PC32	4

### Data Section

Byte Offset	Contents (hex)	Explanation
0	6a	.asciz "junk"
1	75	
2	6e	
3	6b	
4	00	

### Text Section

Byte Offset	Contents (hex)	Explanation
0-1	01 c0	addl %eax, %eax
2-3	01 c0	addl %eax, %eax
4-5	01 c0	addl %eax, %eax
6-7	01 c0	addl %eax, %eax
8-12	e8 f5 ff ff ff	call labelLocal0 (ffffff5 in hexadecimal is -11 in decimal) 2 - (9 + 4) = -11
13-17	e8 11 00 00 00	call labelLocal1 (0000011 in hexadecimal is 17 in decimal) 35 - (14 + 4) = 17
18-22	e8 fc ff ff ff	call labelGlobal (ffffffc in hexadecimal is -4 in decimal)
23-27	e8 fc ff ff ff	call labelUndefined (ffffffc in hexadecimal is -4 in decimal)
28-32	e8 fc ff ff ff	call labelInDiffSection (ffffffc in hexadecimal is -4 in decimal)
33-34	01 c0	addl %eax, %eax
35-36	01 c0	addl %eax, %eax