

CS 302 - Systems Programming
Problem 2.1.2

FIRST PASS

| Loc/Block | Source Statements | | | SYMTAB | |
|-----------|-------------------|-------|---------|--------|------|
| 4000 | SUM | START | 4000 | | |
| 4000 | FIRST | LDX | ZERO | FIRST | 4000 |
| 4003 | | LDA | ZERO | | |
| 4006 | LOOP | ADD | TABLE,X | LOOP | 4006 |
| 4009 | | TIX | COUNT | | |
| 400C | | JLT | LOOP | | |
| 400F | | STA | TOTAL | | |
| 4012 | | RSUB | | | |
| 4015 | TABLE | RESW | 2000 | TABLE | 4015 |
| 5785 | COUNT | RESW | 1 | COUNT | 5785 |
| 5788 | ZERO | WORD | 0 | ZERO | 5788 |
| 578B | TOTAL | RESW | 1 | TOTAL | 578B |
| | END | FIRST | | | |

After first pass: LOCCTR = 578E, LENGTH = 578E - 4000 = 178E

SECOND PASS (for simplicity, values shown first over the same table)

| Loc/Block | Source Statements | | | object |
|-----------|-------------------|-------|---------|--------|
| 4000 | SUM | START | 4000 | |
| 4000 | FIRST | LDX | ZERO | 045788 |
| 4003 | | LDA | ZERO | 005788 |
| 4006 | LOOP | ADD | TABLE,X | 18C015 |
| 4009 | | TIX | COUNT | 2C5785 |
| 400C | | JLT | LOOP | 384006 |
| 400F | | STA | TOTAL | 0C578B |
| 4012 | | RSUB | | 4C0000 |
| 4015 | TABLE | RESW | 2000 | |
| 5785 | COUNT | RESW | 1 | |
| 5788 | ZERO | WORD | 0 | 000000 |
| 578B | TOTAL | RESW | 1 | |
| | END | FIRST | | |

Object Code

HSUM 00400000178E
T0040001504578800578818C0152C57853840060C578B4C0000
T00578803000000
E004000