

X P L    COMPILATION -- STANFORD UNIVERSITY -- XCOM III VERSION OF MAY 7, 1969.

TODAY IS AUGUST 10, 1969.

```
1 |  
2 | /* INTERLIST $EMITTED CODE */  
3 |  
4 | DECLARE I FIXED, J BIT(16), K BIT(8),  
5 |     ALPHA CHARACTER INITIAL('MESSAGE'),
```

```
6 |     BETA (3) BIT(64) ;  
7 |  
8 | CALL TRACE ; /* BEGIN TRACING */
```

```
9 |     I,J,K = 2 ;
```

```
10 |     BETA(I) = ALPHA ;
```

```
1286  
1286  
1286  
1286  
1286  
24: DESC = 6, 160
```

```
160: CHARACTER = D4  
161: CHARACTER = C5  
162: CHARACTER = E2  
163: CHARACTER = E2  
164: CHARACTER = C1  
165: CHARACTER = C7  
166: CHARACTER = C5
```

```
1286  
1286  
1286  
1286: CODE = STM 1,124(3,11)  
1290: CODE = LA 1,12(0,0)  
1294: CODE = BALR 12,15  
1296: CODE = LM 1,124(3,11)  
1300  
1300: CODE = LA 1,2(0,0)  
1304: CODE = STC 1,1346(0,11)  
1308: CODE = STH 1,1344(0,11)  
1312: CODE = ST 1,1340(0,11)  
1316  
1316: CODE = L 1,1340(0,11)  
1320: CODE = L 2,24(0,13)
```

Fig. 6.18.1

```

11 | DO WHILE J = I ;

12 |     J = SHL(K,1) & SHR(I,J) ;

13 |     OUTPUT, ALPHA = SUBSTR(ALPHA,J,I+1) ;
    
```

```

1324: CODE = SLL 1,2(0,0)
1328: CODE = ST 2,28(1,13)
      | 1332
1332: CODE = LH 1,1344(0,11)
1336: CODE = C 1,1340(0,11)
1340: CODE = LA 1,0(0,0)
1344: CODE = BC 6,1352(0,14)
1348: CODE = LA 1,1(0,0)
      BACK UP CODE EMITTER
1340: CODE = BC 6,1340(0,14)
      | 1344
1344: CODE = SR 1,1
1346: CODE = IC 1,1346(0,11)
1350: CODE = AR 1,1
1352: CODE = L 2,1340(0,11)
1356: CODE = LH 3,1344(0,11)
1360: CODE = SRL 2,0(0,3)
1364: CODE = NR 1,2
1366: CODE = STH 1,1344(0,11)
      | 1370
1370: CODE = L 1,24(0,13)
1374: CODE = LH 2,1344(0,11)
1378: CODE = LA 3,1(0,0)
1382: CODE = A 3,1340(0,11)
1386: CODE = LA 1,0(2,1)
1390: CODE = LA 3,255(0,3)
1394: CODE = SLL 3,24(0,0)
1398: CODE = OR 1,3
1400: CODE = ST 1,24(0,13)
1404: CODE = STM 1,124(3,11)
1408: CODE = LR 0,1
1410: CODE = SR 2,2
1412: CODE = LA 1,8(0,0)
1416: CODE = BALR 12,15
    
```

Fig. 6.18.1 (Contd.)

```

14 | END;

15 | IF J < BYTE('A') THEN

16 | I = 0;

17 | ELSE
18 | I = BYTE(BETA(J),K) ;

19 | CALL UNTRACE ; /* END TRACE */

20 | /* $END INTERLISTING */

1418: CODE = LM 1,124(3,11)
| 1422
1422: CODE = BC 15,1332(0,14)
1340: FIXUP =1426
| 1426
1426: CODE = LH 1,1344(0,11)
1348: DATA = 193
1430: CODE = C 1,1348(0,11)
1434: CODE = LA 1,0(0,0)
1438: CODE = BC 10,1446(0,14)
1442: CODE = LA 1,1(0,0)
| 1446 C7 = 193.
BACK UP CODE EMITTER
1434: CODE = BC 10,1434(0,14)
1438: CODE = SR 1,1
1440: CODE = ST 1,1340(0,11)
| 1444
| 1444
1444: CODE = BC 15,1444(0,14)
1448: CODE = LH 1,1344(0,11)
1452: CODE = SLL 1,2(0,0)
1456: CODE = L 1,28(1,13)
1460: CODE = SR 2,2
1462: CODE = IC 2,1346(0,11)
1466: CODE = IC 2,0(2,1)
1470: CODE = ST 2,1340(0,11)
| 1474
1444: FIXUP =1474
1434: FIXUP =1448
1474: CODE = STM 1,124(3,11)
1478: CODE = LA 1,16(0,0)
1482: CODE = BALR 12,15
1484: CODE = LM 1,124(3,11)
| 1488

```

Fig. 6.18.1 (Contd.)

21 |  
22 |EOF

| 1488  
| 1488

END OF COMPILATION AUGUST 10, 1969. CLOCK TIME = 21:34:20.51.

22 CARDS CONTAINING 9 STATEMENTS WERE COMPILED.  
NO ERRORS WERE DETECTED.

1496 BYTES OF PROGRAM, 1357 OF DATA, 44 OF DESCRIPTORS, 167 OF STRINGS.  
TOTAL CORE REQUIREMENT 3064 BYTES.

SYMBOL TABLE DUMP

ALPHA	:	CHARACTER AT 24(13),	DECLARED ON LINE 5 AND REFERENCED 3 TIMES.
BETA	:	CHARACTER AT 28(13),	DECLARED ON LINE 6 AND REFERENCED 2 TIMES.
I	:	FIXED AT 1340(11),	DECLARED ON LINE 4 AND REFERENCED 7 TIMES.
J	:	BIT(16) AT 1344(11),	DECLARED ON LINE 4 AND REFERENCED 7 TIMES.
K	:	BIT(8) AT 1346(11),	DECLARED ON LINE 4 AND REFERENCED 3 TIMES.

TOTAL TIME IN COMPILER 0:0:3.94.  
SET UP TIME 0:0:1.96.  
ACTUAL COMPILATION TIME 0:0:0.40.  
POST-COMPILATION TIME 0:0:1.58.  
COMPILATION RATE: 3300 CARDS PER MINUTE.

Fig. 6.18.1 (Contd.)