

DATE: 15-11-2025 22:00:14      USER: COBOL      JOB: MATMUL      PAGE: 0000

1412THE

```
4 MATMUL COBOL FILE NAME/TYPE= /COBOL/MATH/MATMUL.COB
5 MATMUL COBOL
6 MATMUL COBOL CREATION DATE/TIME= 15-11-2025 22:00:14
7 MATMUL COBOL
8 MATMUL COBOL FILE= 001 PAGES= 0002 LINES= 000104
9 MATMUL COBOL
10 MATMUL COBOL SYSTEM= LINUX(6.16.8+KALI-AMD64)
11 MATMUL COBOL
12 MATMUL COBOL SYSID= ACID SYSUSER= ACID
13 MATMUL COBOL
14 MATMUL COBOL FORM= SMALL
15 MATMUL COBOL
16 MATMUL COBOL CHAR= FONTMONO
17 MATMUL COBOL
18 MATMUL COBOL PRT1403 VERSION= 1.5.PRE-RELEASE
```

```
21
22             CCCCCCCC 00000000 BBBB BBBB 00000000 LL
23             CCCCCCCCCC 0000000000 BBBB BBBB BBBB 0000000000 LL
24             CC   CC 00    00 BB    BB 00    00 LL
25             CC   00    00 BB    BB 00    00 LL
26             CC   00    00 BBBB BBBB 00    00 LL
27             CC   00    00 BBBB BBBB 00    00 LL
28             CC   00    00 BB    BB 00    00 LL
29             CC   CC 00    00 BB    BB 00    00 LL
30             CCCCCCCCCC 0000000000 BBBB BBBB BBBB 0000000000 LLLLLLLL
31             CCCCCCCC 00000000 BBBB BBBB 00000000 LLLLLL
```

34	M	M	AAA	TTTTTTTT	M	M	UU	UU	LL		
35	MM	MM	AAAAAA	TTTTTTTT	MM	MM	UU	UU	LL		
36	MMM	MMM	AA	AA	TT	MMM	MMM	UU	UU	LL	
37	MMMM	MMMM	AA	AA	TT	MMMM	MMMM	UU	UU	LL	
38	MM	MM	MM	AA	AA	TT	MM	MM	UU	UU	LL
39	MM	M	MM	AAAAAAAAAA	TT	MM	M	MM	UU	UU	LL
40	MM	MM	AAAAAAAAAA	TT	MM	MM	UU	UU	LL		
41	MM	MM	AA	AA	TT	MM	MM	UU	UU	LL	
42	MM	MM	AA	AA	TT	MM	MM	UUUUUUUUUU	LLLLLLLLLL		
	MM	MM	AA	AA	TT	MM	MM	UUUUUUUUUU	LLLLLLLLLL		

```
46          00000      00000      1
47          00000000    00000000    11
48          00          00          00      111
49          00          00          00      11
50          00          00          00      11
51          00          00          00      11
52          00          00          00      11
53          00          00          00      11
54          00000000    00000000    111111
55          00000      00000      111111
```

A grid of 58 rows and 59 columns filled with asterisks (\*). The first column contains row numbers from 58 down to 1. The last column contains column numbers from 1 down to 59.

1 000001 IDENTIFICATION DIVISION.  
2 000002 PROGRAM-ID. MatrixCalculation.

3  
4 000004 ENVIRONMENT DIVISION.  
5 000005 DATA DIVISION.

6  
7 000007 WORKING-STORAGE SECTION.

8 000008 01 M-SIZE PIC 9(4) COMP VALUE 400.

9 000009 01 RESULT1 PIC S9(14) COMP VALUE 0.  
10 000010 01 RESULT2 PIC S9(14) COMP VALUE 0.

11 000011 01 TIME1 COMP-2 VALUE 0.

12 000012 01 TIME2 COMP-2 VALUE 0.

13 000013

14 000014 01 M1. COMP-2 VALUE 0.

15 000015 01 M2. COMP-2 VALUE 0.

16 000016

17 000017 01 M1.

18 000018 05 M1-ROW OCCURS 400 TIMES.

19 000019 10 M1-ELEMENTS OCCURS 400 TIMES PIC S9(10) COMP.

20 000020 01 M2.

21 000021 05 M2-ROW OCCURS 400 TIMES.

22 000022 10 M2-ELEMENTS OCCURS 400 TIMES PIC S9(10) COMP.

23 000023 01 M3.

24 000024 05 M3-ROW OCCURS 400 TIMES.

25 000025 10 M3-ELEMENTS OCCURS 400 TIMES PIC S9(10) COMP.

26 000026

27 000027 01 I PIC S9(10) COMP.

28 000028 01 J PIC S9(10) COMP.

29 000029 01 K PIC S9(10) COMP.

30 000030

31 000031 01 START-TIME PIC S9(10) COMP.

32 000032 01 END-TIME PIC S9(10) COMP.

33 000033

34 000034 01 TEMP PIC S9(10) COMP.

35 000035

36 000036 01 RESULT1\_TXT PIC 9(14).

37 000037 01 RESULT2\_TXT PIC 9(14).

38 000038 01 TIME1\_TXT PIC 9(3).9(6).

39 000039 01 TIME2\_TXT PIC 9(3).9(6).

40 000040

41 000041 PROCEDURE DIVISION.

42 000042

43 000043 \* -----

44 000044

45 000045 ACCEPT START-TIME FROM TIME.

46 000046

47 000047 MOVE 0 TO RESULT1.

48 000048

49 000049 PERFORM VARYING I FROM 1 BY 1 UNTIL 100 < I

50 000050 PERFORM VARYING J FROM 1 BY 1 UNTIL 1000000 < J

51 000051 ADD J TO RESULT1

52 000052 END-PERFORM

53 000053 END-PERFORM.

54 000054

55 000055 ACCEPT END-TIME FROM TIME.

56 000056 COMPUTE TIME1 = (END-TIME - START-TIME) / 100.

57 000057

58 000058 \* -----

59 000059

60 000060 ACCEPT START-TIME FROM TIME.

```
1 000061      PERFORM VARYING I FROM 1 BY 1 UNTIL M-SIZE < I
2 000062      PERFORM VARYING J FROM 1 BY 1 UNTIL M-SIZE < J
3 000063          ADD I TO J GIVING M1-ELEMENTS(I, J)
4 000064          ADD I TO J GIVING M2-ELEMENTS(I, J)
5 000065      END-PERFORM
6 000066
7 000067      END-PERFORM.
8 000068
9 000069      PERFORM VARYING I FROM 1 BY 1 UNTIL M-SIZE < I
10 000070      PERFORM VARYING J FROM 1 BY 1 UNTIL M-SIZE < J
11 000071          MOVE 0 TO M3-ELEMENTS(I, J)
12 000072          PERFORM VARYING K FROM 1 BY 1 UNTIL M-SIZE < K
13 000073              MULTIPLY M1-ELEMENTS(I, K) BY M2-ELEMENTS(K, J)
14 000074                  GIVING TEMP
15 000075          ADD TEMP TO M3-ELEMENTS(I, J)
16 000076      END-PERFORM
17 000077      END-PERFORM
18 000078      END-PERFORM.
19 000079
20 000080          MOVE 0 TO RESULT2.
21 000081
22 000082      PERFORM VARYING I FROM 1 BY 1 UNTIL M-SIZE < I
23 000083      PERFORM VARYING J FROM 1 BY 1 UNTIL M-SIZE < J
24 000084          ADD M3-ELEMENTS(I, J) TO RESULT2
25 000085      END-PERFORM
26 000086      END-PERFORM.
27 000087
28 000088          ACCEPT END-TIME FROM TIME.
29 000089          COMPUTE TIME2 = (END-TIME - START-TIME) / 100.
30 000090
31 000091      * -----
32 000092
33 000093          MOVE RESULT1 TO RESULT1_TXT
34 000094          MOVE RESULT2 TO RESULT2_TXT
35 000095          MOVE TIME1 TO TIME1_TXT
36 000096          MOVE TIME2 TO TIME2_TXT
37 000097
38 000098          DISPLAY 'COBOL : Result= ' RESULT1_TXT
39 000099              ', Time= ' TIME1_TXT ' sec'
40 000100              ', Result= ' RESULT2_TXT
41 000101              ', Time= ' TIME2_TXT ' sec'.
42 000102
43 000103      STOP RUN.
44 000104
```