```
                              PARTITION 1
                                STORE
        20000                                    0000P
        ---------+------------------+----------
        19999                                    6999P
                              PARTITION 0
                                STORE
        13000                                    0000P
        ---------+------------------+----------
        12999                                    9999C
                              COMMON
                               STORE
         3000                                    0000C
        ---------+------------------+----------
         2999                                    2999
                              CONTROL
                               STORE
            0                                    0000
```

| Absolute | Relative |
| Addresses | Addresses |

Fig. 2   Main store layout

3.2.2 Common Store: There is an area of Main Store accessible to all programs called Common. The size of Common is set during Initial Program Load to a value in the range 10000 to 80000 bytes, in units of 1000 bytes.

The first 300 bytes are called Protected Common and write access is inhibited. It is used to hold the Program Pointer (P register — 5 bytes) and Input/Output Control Words (A and B registers — 5 bytes each) for each partition.

The next 700 bytes are used for entry points to supervisory routines, tables controlling shared resources (such as disc), and a Mailbox for communication between partitions.

The remainder of Common is used to hold shared routines (e.g. housekeeping routines) and buffer areas for the bulk transfer of data between partitions.

3.2.3 Partition Store: Each program in System 25 operates within its own area of main store called a Partition and the System 25 architecture allows for up to 20 partitions. The size of each partition is set during Initial Program Load to a value in the range 0 to 80000 bytes, in units of 1000 bytes.

There is no defined structure within the partition store and its use is determined by the user program. However, bytes 11-14, 21-24, 31-34 are used as index registers by the instructions, and bytes 40-44 are used to hold the contents of the P Register when a Program Check occurs.

3.3   Arithmetic operations

Arithmetic operations use two operands called the A operand and the B operand,

which are fetched from the A and B Fields. The result is stored in the B Field.

The basic arithmetic functions are Add, Subtract, Multiply and Divide, with these conventions:

Add   the A Operand is added to the B Operand.
Subtract   the A Operand is subtracted from the B Operand.
Multiply — the A Operand is multiplied by the B Operand.
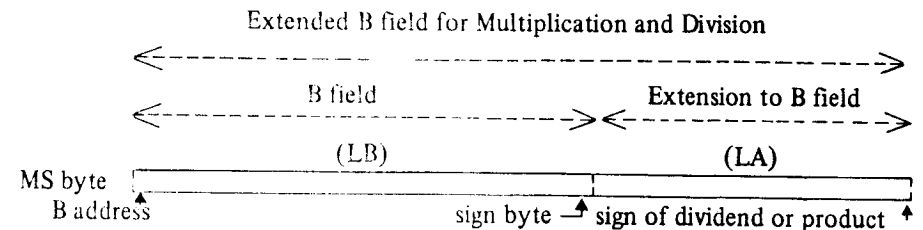Divide — the B Operand is divided by the A Operand.

3.3.1 Numeric Fields: Numeric data is stored in variable length fields of up to 10 bytes.

The A Operand is contained within the A Field as shown below
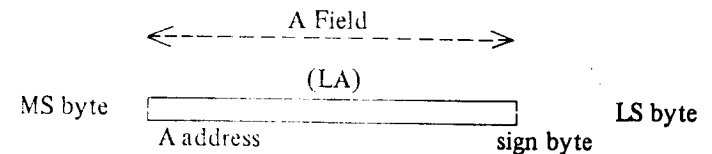
The length of the A Field is defined by the contents of the LA field in the instruction.

The B Operand is contained in the B Field or the Extended B Field as shown below

The length of the B Field is defined by the contents of the LB Field in the instruction and the length of the extension to the B Field is defined by the contents of the LA Field.

3.3.2 Addition and subtraction: Addition and subtraction of numeric data is performed digit by digit starting with the least significant bytes of the two operands. The result of each byte is stored before the next more significant bytes are accessed.

The arithmetic operations performed on the two numeric parts of the bytes depend upon the Zone codes of the least significant bytes as defined in the table below. Zone codes 0-3 and 8-11 are treated as a positive, codes 4-7 and 12-15 are treated as negative. The zone code of the result is set to 3 or 5.