How to check the integer number is Negative or Positive?

Answer: use MASK x8000 (i.e., 1000 0000 0000 0000) and “AND” Logical Operation with the value in the Register. If the result is 0 then the number is POSITIVE Else it is NEGATIVE because the result is 1

For example: 16 bit 2’s complement 1111 1111 1111 0101, 0000 0000 0000 0101

How to check the integer number is *Even* or *Odd*?

Answer: use MASK x1 (i.e., 0000 0000 0000 0001) and “AND” Logical Operation with the value in the Register. If the result is 0 then the number is EVEN Else it is ODD because the result is 1

For example: 16 bit 2’s complement 1111 1111 1111 0101, 0000 0000 0000 0100

How to use the MASK?

Answer: Use to check the integer number is Negative or Positive or check the integer number is *Even* or *Odd.*

How to use LEA, LD, and LDR?

Answer: LEA and LD are used to load the memory address of the dataset was specific by the label.

LDR is used to Load or Read the data in the memory address location saved in the register by LEA or LD.

How to setup pointer point to the Memory Address of the DATA? And Move to next data entry?

Answer: Use LEA or LD load the memory address of the dataset was specific by the label.

How to compare two NUMBER and STRINGZ?

Answer: Compare the value of the character in the string in the loop one by one. First, use the NOT and ADD 1 to the value after NOT operation, convert the value to NEGATIVE 2’s complement. Second, “ADD” the NEGATIVE value in one register with the other number or character in other register. If the result is 0 both are equal , if greater that means one is larger than another or vice versa smaller than the other.

How to use the Bnp, Brz, Brp, and Brnzp?

Based on the flag: NEGATIVE, ZERO, and POSITIVE. Or unconditional Brnzp.

How to use JSR(R)) or RET?

Answer: in Subroutine caller or calling or callee.