Tutorial 6

ET0917 / ET0817 / ET0832

DATA MANIPULATION AND MATH INSTRUCTIONS

Learning Outcome

Apply common instruction set such as
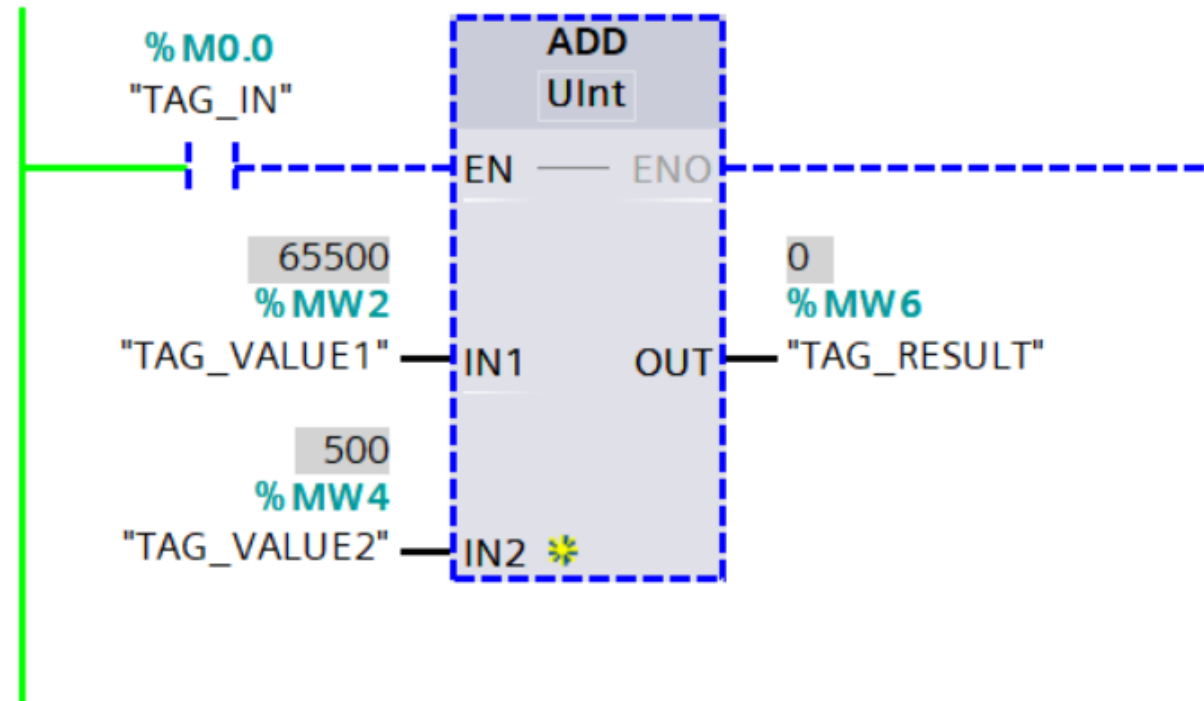
◦ Math

◦ Logic Word

◦ Move

◦ Compare

Q1 - MCQ

When TAG_VALUE1 = 65500 and TAG_VALUE2 = 500, what will TAG_RESULT be when TAG_IN=1?

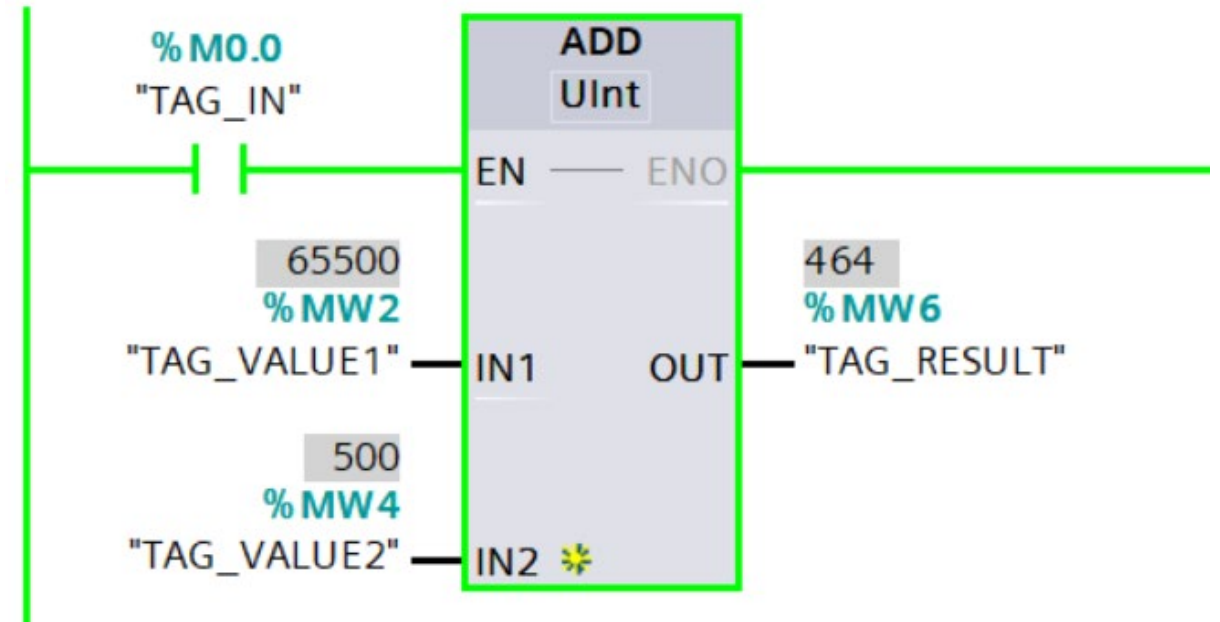Note: Declared as UINT Data Type

a) 0

b) **464**

c) 66000

d) ERROR

Q1 - MCQ

When TAG_VALUE1 = 65500 and TAG_VALUE2 = 500, what will TAG_RESULT be when TAG_IN=1?

You could add in decimal and convert to binary.

		66,000
HEX	1 01D0	
DEC	66,000	
OCT	200 720	
BIN	0001 0000 0001 1101 0000	Read by PLC

%M0.0
"TAG_IN"

ADD
UInt

EN —— ENO

65500
%MW2
"TAG_VALUE1" —— IN1   OUT —— 464
%MW6
"TAG_RESULT"

500
%MW4
"TAG_VALUE2" —— IN2 ☀

Positive integer (unsigned)[b]	USINT	8	0 to 255
	UINT	16	0 to 65 535
	UDINT	32	0 to $2^{32}-1$
	ULINT	64	0 to $2^{64}-1$

Q2 - MCQ

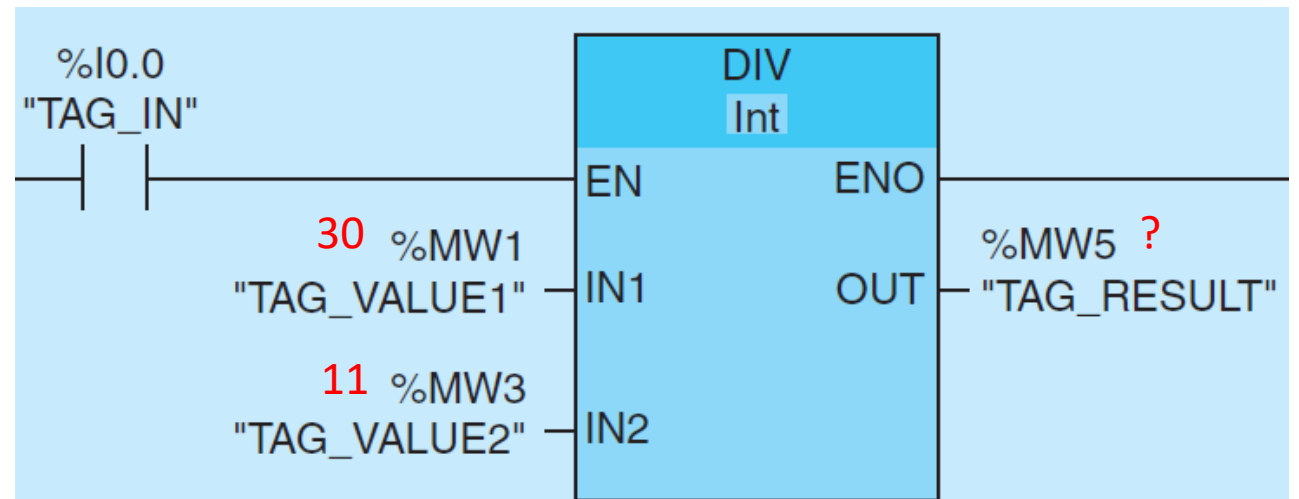In order to get the correct value for subtraction, what is the correct data type to assign to "INT_Out_1"?

a) REAL

b) Integer

c) Boolean

d) Unsigned Integer
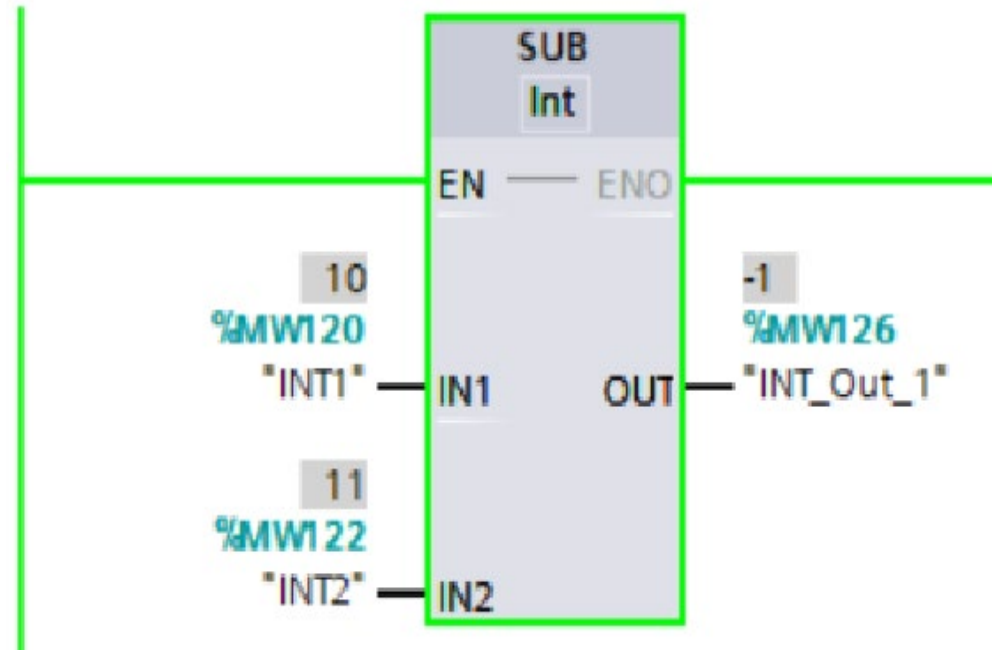
Q3 - MCQ

What is the output of TAG_RESULT? When "TAG_IN"=1?

a) 1

b) 2

c) 2.727

d) 3

Q3 – MCQ - Explanation

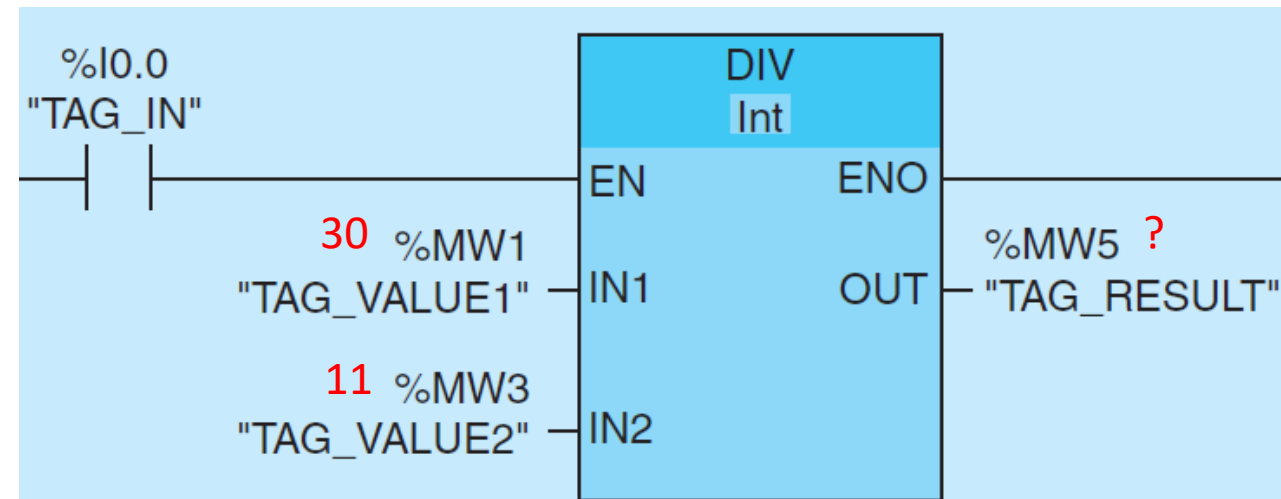What is the output of TAG_RESULT? When "TAG_IN"=1?

Actual division is 2.727

However there INT is only 2 bytes

It does not have sufficient byte
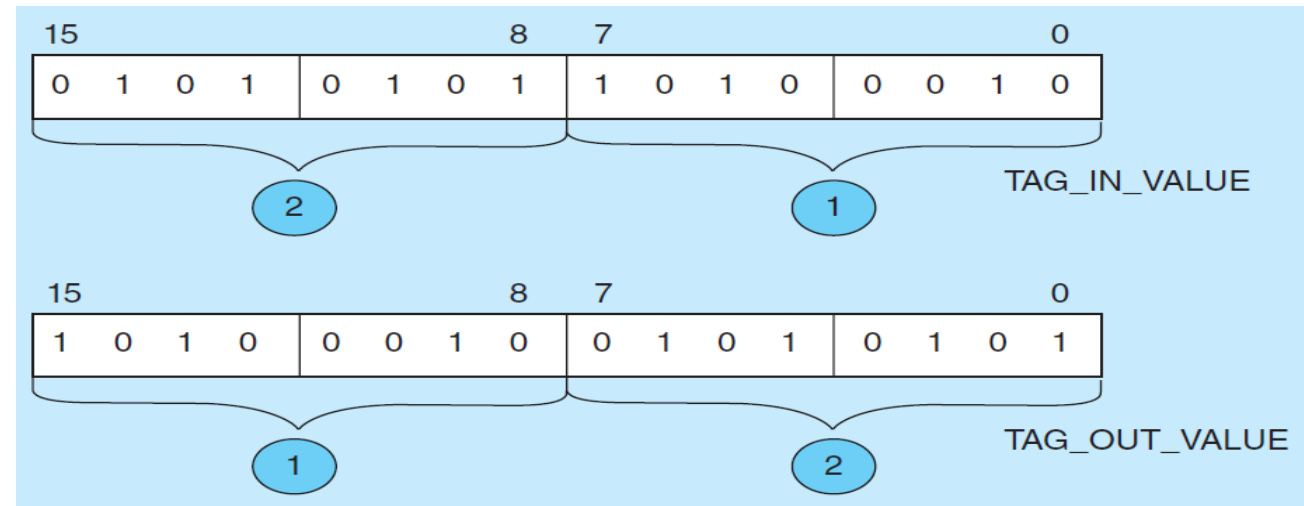
For .727 values, hence dropped out

Leaving the OUT as only 2.~~727~~

Q4 - MCQ

What is the suitable instruction to use to achieve the "TAG_OUT_VALUE"?

a) AND

b) MOVE

c) **SWAP**

d) COMPARE

Q5 - MCQ

Study network 1 and 2, What are the values of "Counter0_Acc" for "SV1" to turn on?

a) 59

b) 60

c) **61**

d) It will not turn on due to wrong use of instruction