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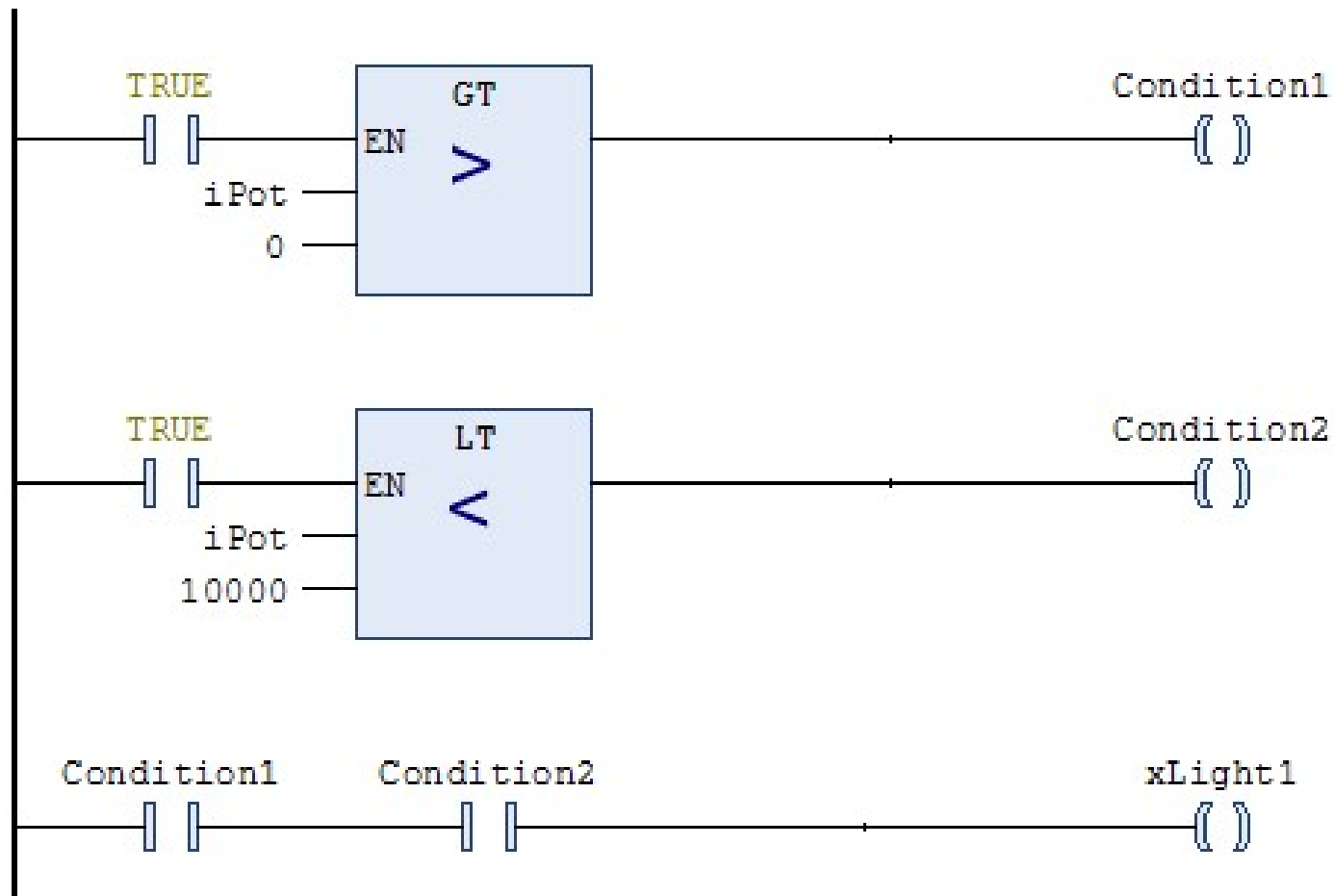
Languages Samples

- A program that will monitor an Analog Value and energize an output if the value is within a specific range.
- The output will be energized if the value is within range. A range is defined as having an upper value and a lower value.
- Therefore we have 2 conditions that determine if the output is energized. The first condition is that the value is greater than the low end of the range, and the second condition is that the value is less than the upper end of the range.

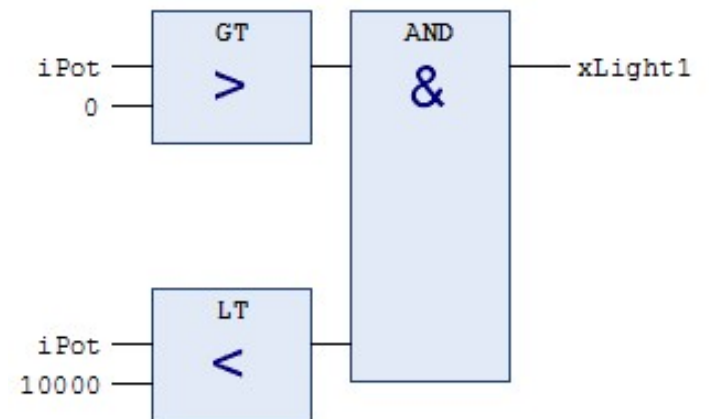
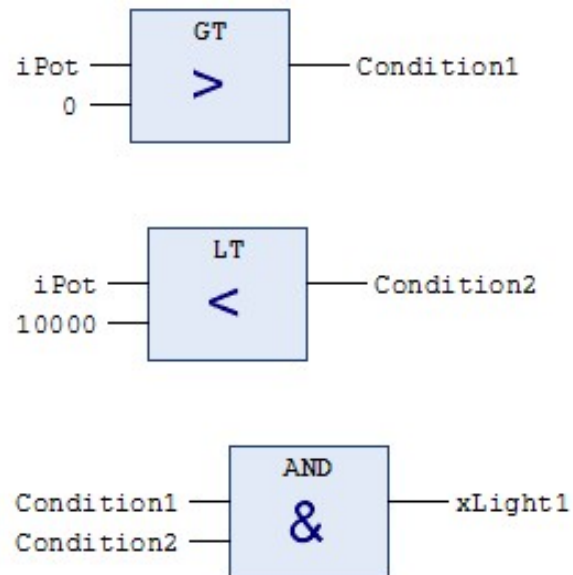
- If both conditions are TRUE then the output will be energized.
- Condition1 is that the value of the analog input is greater than the lower end of the Range. We will assume the lower end of the range is defined as 0.
- Therefore Condition1 will be TRUE if the value is greater than 0.

- Condition2 is that the value of the analog input is less than the upper end of the Range. We will assume the upper end of the range is defined as 10,000.
- Therefore Condition2 will be TRUE if the value is less than 10,000.

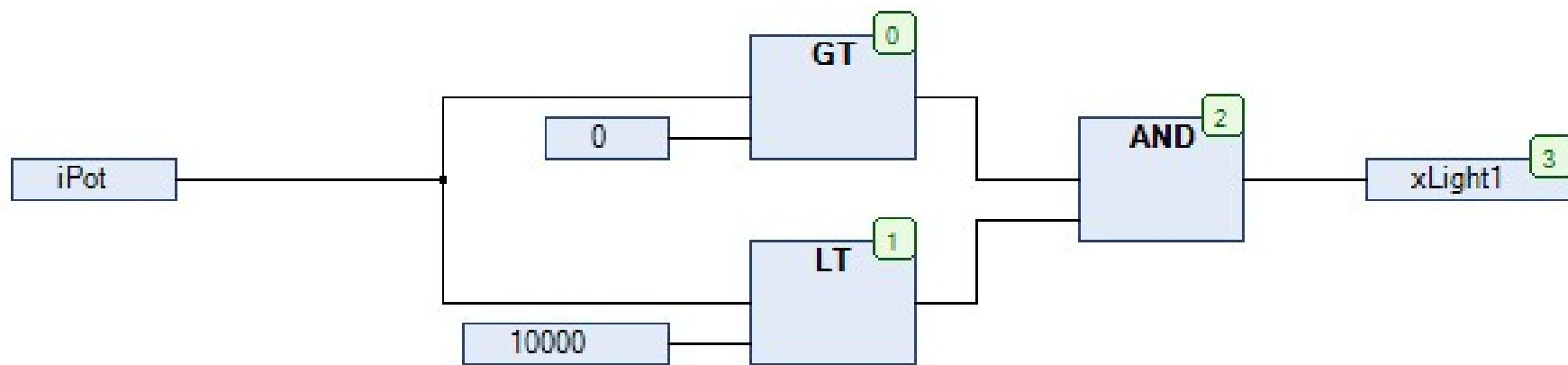
- Here is the Ladder Diagram (LD) code to solve the problem.



- Here is the Function Block Diagram (FBD) code to solve the problem.



- Here is the Continuous Function Chart (CFC) code to solve the problem.



- Here is the Instruction List (IL) code to solve the problem.

1	LD	iPot
	GT	0
	ST	Condition1
2	LD	iPot
	LT	10000
	ST	Condition2
3	LD	Condition1
	AND	Condition2
	ST	xLight1

- Here is the Structured Text (ST) code to solve the problem.
- Both examples will produce the same results

```
Condition1 := iPot > 0;  
Condition2 := iPot < 10000;  
xLight1 := Condition1 AND Condition2;
```

```
xLight1 := (iPot > 0) AND (iPot < 10000);
```

- Here is another Structured Text (ST) code to solve the problem.

```
IF iPot > 0 AND iPot < 10000 THEN  
    xLight1 := TRUE;  
ELSE  
    xLight1 := FALSE;  
END_IF
```

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