

Chapter 5 Cash Register

Design a simple cash register similar to one found at McDonald's or Burger King. To do this, determine a menu of five or six items from the restaurant. Also, include a Total button or a clear button or possibly both. Also, include a means for backing out of a mistake without starting over from zero. Display the cost of the total order in the PLC at an address in the data table. Use Floating Point Math with two decimal places.

For example:

Whopper Combo	Whopper	Cancel Last
Whopper Dbl Combo	Fries	New Order
Whopper Jr Combo	Drink	Total/Tax/Optional

Find the approximate prices from a McDonald's or Burger King for the items you choose. When an item is entered, its count is incremented automatically by one. If a button is entered multiple times, the count is incremented to display the total count. If a mistake is made, the attendant must be able to back up at least one entry and erase the last item or decrement that item by one.

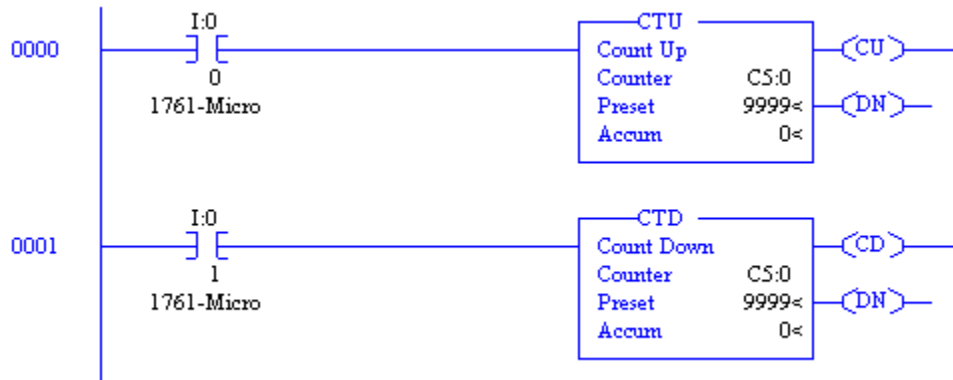
Display the final total in the PLC (not on the display of the trainer).

Options to the lab:

- A** Add logic for "To Go" order so that 6.25% tax is added if not "To Go".
- B** Add lights to buttons so that when an entry is made, the light lights.
- C** Add logic to keep track of total number of each entry for the day.
- D** Calculate profit for the day using your own profit numbers for each entry.
- E** Automatically recognize that the entry of the individual items such as Whopper, Fries, and Drink will be given the price of the Whopper Combo instead of the individual prices.

Hints to the base lab:

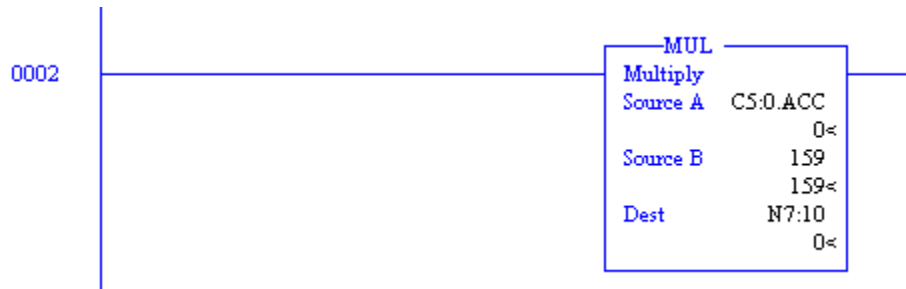
Notice that counters may be referenced as either Count Up or Count Down. If the count is counting up, the count is incremented in rung 0000. If the count is counted down, the count is decremented in rung 0001. Individual inputs are used to increment each product choice. However, to decrement the count, a separate button labeled “Cancel Last” is used. This button must remember the last product chosen and decrement that item. Use the logic in chapter 6 “Relay Instructions” to remember when a button was pushed.



The circuit above is for trial purposes only. Do not use it “as is” in the logic of programs.

The amount of each product is held in the counter Acc value. To access these values, use the addressing of C5:0.ACC (or C5.0.2).

Values of each product are multiplied by the amount of the item and the final total is summed together.



The number in Source B may be either a constant (as is here), or a value from a N7 location. If from an N7 location, the value that is to be used must be entered into that N7 location.

Definition of Inputs:

Sensor	Function/State	Signal Assignment

Definition of Outputs:

Table 5-6b

Actuator	Function/State	Signal Assignment