Counter_HEX_Display Flowchart

```
        ( Start )
            |
            v
  +-------------------+
  | Initialize Program|
  | Constants and     |
  | Variables         |
  +-------------------+
            |
            v
  +-------------------+
  |   Configure       |
  |   Hex Displays    |                ( B )
  +-------------------+
            |<-------------------------+
            v
  +-------------------+
  |   Count =         |
  |   START_COUNT     |
  +-------------------+
            |<----------------- Yes -------------+
            v
  +-------------------+
  |   Extract MSB     |
  |   from Count      |
  +-------------------+
            |
            v
  +-------------------+
  |  Display MSB      |
  |  of Count on      |
  |  MSB Hex          |
  |  Display          |
  +-------------------+
            |
            v
  +-------------------+
  |  Delay a few      |
  |  milliseconds     |
  +-------------------+
            |
            v
          ( A )
```

```
          ( A )
            |
            v
  +-------------------+
  | Extract LSB from  |
  | Count             |
  +-------------------+
            |
            v
  +-------------------+
  |  Display LSB      |
  |  of Count on      |
  |  LSB Hex          |
  |  Display          |
  +-------------------+
            |
            v
  +-------------------+
  |  Add 1 to the     |
  |  Count            |
  +-------------------+
            |
            v
  +-------------------+
  | If not counting in|
  | HEX mode,         |
  | Adjust Count for  |
  | Valid BCD value   |
  +-------------------+
            |
            v
        /  Count <=  \
       <  END_COUNT   >---- Yes
        \     ?      /
            |
           No
            v
          ( B )
```
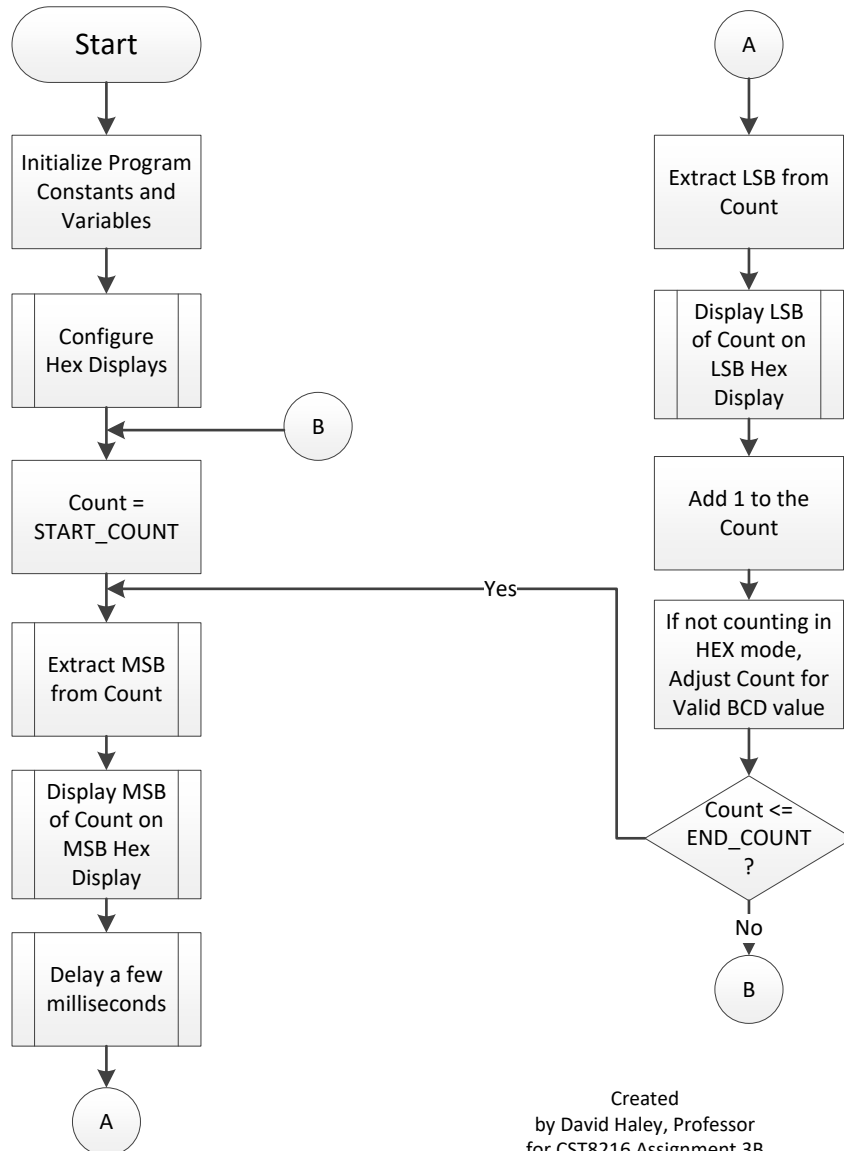
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Notes:

1. Subroutines (subprograms) and their documentation are provided with the assignment.

2. Details on saving values before calling subprograms not normally not included in higher level flowcharts.

3. This flowchart illustrates the sequential flow of the program, but does not include a Decision Structure necessary to either keep the count as HEX or adjust the count to a Valid BCD value.

4. How to alter the program to change from counting HEX → BCD → HEX → BCD and so on is also not included in the flowchart

5. There should be NO duplicated code evident in your solution when you follow the logic in this flowchart.