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--------------------------------------------------------------------------------
Assembly listing for file ./prime.sasm
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SrcLin -Addr- Op Oprnd   --- Source line ---
     1                   # ##############################################################################
     2                   #
     3                   # NAME       : PRIME.SASM
     4                   # AUTHOR     : GERARD WASSINK
     5                   # DATE       : JUNE 2019
     6                   # PURPOSE    : FINDING PRIMES FROM 1 TO 4095
     7                   #
     8                   # ##############################################################################
     9                   #
    10 000000 20 0001    START      LIA     X'01                # LOAD 1
    11 000003 28 0086               STA     NUMBER              #   INTO NUMBER
    12                   #
    13                   #                                      # LOOP NUMBER = 1 TO 4095
    14                   #
    15 000006 20 0001    NLOOP      LIA     X'01                # ASSUME THIS ONE
    16 000009 28 008C               STA     PRIME               #   IS A PRIME
    17                   #
    18 00000C 51 0086               LMB     NUMBER              # TRACK NUMBER IN B REGISTER
    19                   #
    20 00000F 20 0002               LIA     X'02                # LOAD 2
    21 000012 28 0088               STA     COUNT               #   INTO COUNT
    22                   #
    23                   #                                      # LOOP COUNT = 2 TO NUMBER
    24                   #
    25 000015 52 0088    CLOOP      LMC     COUNT               # TRACK COUNT IN C REGISTER
    26                   #
    27 000018 50 0086               LMA     NUMBER              # CALC =
    28 00001B E9 0088               SBM     COUNT               #   NUMBER -
    29 00001E 28 008A               STA     CALC                #     COUNT
    30                   #
    31 000021 11 0039               JC      ATEND               # CALC < 0 ? : ATEND
    32 000024 12 0039               JZ      ATEND               # CALC = 0 ? : ATEND
    33                   #
    34 000027 50 008A    SUBTR      LMA     CALC                # CALC =
    35 00002A E9 0088               SBM     COUNT               #   CALC -
    36 00002D 28 008A               STA     CALC                #     COUNT
    37                   #
    38 000030 11 0039               JC      ATEND               # CALC < 0 ? : ATEND
    39 000033 12 0039               JZ      ATEND               # CALC = 0 ? : ATEND
    40 000036 10 0027               JMP     SUBTR               #   ELSE KEEP SUBTRACTING
    41                   #
    42 000039 50 008A    ATEND      LMA     CALC                # CALC
    43 00003C E2 0000               CPI     X'00                #   EQUAL ZERO?
    44 00003F 13 0045               JE      SKIP                #     GO SKIP
    45 000042 10 0057               JMP     NEXTC               #     ELSE NEXTC
    46                   #
    47 000045 50 0086    SKIP       LMA     NUMBER              # NUMBER
    48 000048 EA 0088               CPM     COUNT               #   EQUAL COUNT?
    49 00004B 13 0057               JE      NEXTC               #     GO NEXTC
    50                   #
    51 00004E 20 0000               LIA     X'00                # SET PRIME INDICOATOR
    52 000051 28 008C               STA     PRIME               #   TO FALSE
    53 000054 10 0069               JMP     SKIP1               #     LEAVE COUNT LOOP
    54                   #
    55 000057 50 0088    NEXTC      LMA     COUNT               # COUNT =
    56 00005A E0 0001               ADI     X'01                #   COUNT +
    57 00005D 28 0088               STA     COUNT               #     1
    58                   #
    59 000060 EA 0086               CPM     NUMBER              # COUNT > NUMBER ?
    60 000063 15 0069               JG      SKIP1               #   GO SKIP1
    61 000066 10 0015               JMP     CLOOP               #   ELSE GO CLOOP
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    62                  #
    63 000069 50 008C    SKIP1      LMA      PRIME               # PRIME INDICATOR
    64 00006C E2 0000               CPI      X'00                #   FALSE ?
    65 00006F 13 0076               JE       NEXTN               #     GO NEXTN
    66                  #
    67 000072 50 0086    FOUNDPR         LMA      NUMBER             # FOUND PRIME
    68 000075 30                    OPA                          #   PUT ON OUTPUT
    69                  #
    70 000076 50 0086    NEXTN      LMA      NUMBER              # INCREMENT
    71 000079 E0 0001               ADI      X'01                #   NUMBER
    72 00007C 28 0086               STA      NUMBER              #     BY 1
    73 00007F E2 0FFF               CPI      X'0FFF              # LESS THAN 4095 ?
    74 000082 14 0006               JL       NLOOP               #   GO NEXT NUMBER
    75                  #
    76 000085 FF         FINISH     HLT                          # HALT PROGRAM
    77                  #
    78                  # ############################################################################
    79                  # ### STORAGE AREA (RESERVE TWO BYTES PER NUMBER)
    80                  # ############################################################################
    81 000086 00         NUMBER     NOP
    82 000087 00                    NOP
    83 000088 00         COUNT      NOP
    84 000089 00                    NOP
    85 00008A 00         CALC       NOP
    86 00008B 00                    NOP
    87 00008C 00         PRIME      NOP
    88 00008D 00                    NOP
    89                  #

Phase 1 parsing ended successfully

Phase 2 parsing ended successfully

Phase 3 parsing ended successfully

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End of assembly for file ./prime.sasm
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