

File Edit Format View Help

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*****
*
* Title: StarFill (in Memory lane)
*
* Objective: CSE472 Homework 1 in-class-room demonstration
*            program
*
* Revision:  V2.1
*
* Date:      Aug. 17, 2016
*
* Programmer: Kyusun Choi
*
* Company: The Pennsylvania State University
* Electrical Engineering and Computer Science
*
* Algorithm: Simple while-loop demo of HCS12 assembly program
*
* Register use: A accumulator: character data to be filled
*               B accumulator: counter, number of filled locations
*               X register:    memory address pointer
*
* Memory use: RAM Locations from $3000 to $3009
*
* Input: Parameters hard coded in the program
*
* Output: Data filled in memory locations,
* from $3000 to $3009 changed
*
* Observation: This program is designed for instruction purpose.
* This program can be used as a 'loop' template
*
* Note: This is a good example of program comments
* All Homework programs MUST have comments similar
* to this Homework 1 program. So, please use this
* comment format for all your subsequent CMPEN 472
* Homework programs.
*
* Adding more explanations and comments help you and
* others to understand your program later.
*
* Comments: This program is developed and simulated using CodeWarrior
* development software.
*
*****
* Parameter Declaration Section
*
* Export Symbols
*       XDEF      pgstart ; export 'pgstart' symbol
*       ABSENTRY  pgstart ; for assembly entry point
* Symbols and Macros
PORTA EQU      $0000 ; i/o port addresses
PORTB EQU      $0001

```

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hw1b.asm - Notepad
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*
*****
* Parameter Declaration Section
*
* Export Symbols
    XDEF      pgstart ; export 'pgstart' symbol
    ABSENTRY  pgstart ; for assembly entry point
* Symbols and Macros
PORTA EQU     $0000    ; i/o port addresses
PORTB EQU     $0001
DDRA  EQU     $0002
DDRB  EQU     $0003
*****
* Data Section
*
    ORG       $3000    ;reserved memory starting address
here DS.B     $0A      ;10 memory locations reserved
count DC.B    $0A      ;constant, star count = 10
*
*****
* Program Section
*
    ORG       $3100    ;Program start address, in RAM
pgstart ldaa   #$2A     ;load '*' into accumulator A
        ldab   $300A    ;load star counter into B
        ldx    #$3000   ;load address pointer into X
loop    staa   0,x      ;put a star
        inx    ;point to next location
        decb   ;decrease counter
        bne    loop    ;if not done, repeat
done    bra    done     ;task finished,
                        ; do nothing
*
* Add any subroutines here
*
    END              ;last line of a file
```