**Daniel Meyer – Lab Report**

**Lab3.asm**

;Class:CSE 313 Machine Organization Lab

;Section: 02

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;Lab#3: Days of the Week

;Description: This prgram prompts for an integer between 0 and 6

;and returns the day of the week that corresponds to the integer

;supplied by the user. Text is dispalyed to the console using PUTS

;and character input is retrieved using GETC. If the integer

;given given by the user is out of bounds, the program ends, if not

;the program will continue to loop.

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; In order to execute the program you must load

;Lab3.asm. Once loaded run the program and you will be prompted to

;enter a number. Once the number is provided, the program will

;convert the number from its ASCII value into an integer and then

;check the number to see if it is less than 7. If it is, the

;program will dispaly the corresponding day of the week, loop and

;prompt for another integer. If it is greater than or equal to 7

;the program will jump to HALT and end. All data is stored after

;HALT and before .END.

.ORIG x3000

RESTART LEA R0, PROMPT ;Found in 3.2.2

PUTS ;Print to console

GETC ;Get one char input, stored in R0

;Change char input to actual value

ADD R3, R0, #0 ;

ADD R3, R3, #-16;

ADD R3, R3, #-16;

ADD R3, R3, #-16;Subtract 48, ASCII value of 0

;Check if number entered was >=7

;If >=7 jump to HALT

AND R4, R4, #0 ;Clear R4 since program loops

ADD R4, R4, #-7 ;R4 = -7

AND R5, R5, #0 ;Clear R5 since program loops

ADD R5, R3, R4 ;Check if input is >=7 (input - 7, neg < 7, zero/pos >=7)

BRzp BAD ;Break to end if >=7

;Load list of days

LEA R0, DAYS ;R0 <- Sunday

ADD R3, R3, 0 ;Sunday = 0

LOOP BRz DISPLAY ;Break to display day on screen

ADD R0, R0, #10;R0 <- Next Day

ADD R3, R3, #-1 ;Decrement loop

BR LOOP ;Trigger loop

DISPLAY PUTS ;Display the day of the week

LEA R0, LF ;Blank Line Feed

PUTS ;Print blank line

BR RESTART ;Go back to beginning of program

BAD HALT

PROMPT .STRINGZ "Please enter number: "

;Adding blank spaces so that each date has same length (9 + 1 for NULL)

DAYS .STRINGZ "Sunday "

.STRINGZ "Monday "

.STRINGZ "Tuesday "

.STRINGZ "Wednesday"

.STRINGZ "Thursday "

.STRINGZ "Friday "

.STRINGZ "Saturday "

LF .FILL x000A

.END

**Screenshots**

**Results for inputs *I = 0, 1, 4, 6, 7***

