Daffodil International University Department of Electrical and Electronic Engineering EEE 324: Microprocessors and Interfacing Laboratory

EXPERIMENT NO: 02

NAME OF THE EXPERIMENT: USING MUL AND DIV IN ASSEMBLY LANGUAGE

Theory:

Multiplication: If two bytes are multiplied, the product is a word (16 bits).

Syntax: MUL source Multiplier is kept in source byte, multiplicand in AL and the 16 bit product in AX The source may be a byte register, a memory byte, but not a constant

MUL affects 2 flags CF and OF CF/OF=0, if the upper half of the result is zero otherwise 1

Division:

Syntax: DIV divisor

The quotient and the remainder have the same size as the divisor. Divisor is kept in 8 bit register or memory, dividend is kept in AX, quotient in AL and the remainder in AH

DIV does not affect flags

PROGRAM 1

;Multiplying two numbers

.model small .stack 100H .data A DB 10 B DB 5 .code main proc mov ax,@data mov ds,ax

mov al,10

mul B

main endp end main

PROGRAM 2

;Dividing two numbers

.model small .stack 100H .data A DB 50 B DB 6 .code main proc mov ax,@data mov ds,ax

> mov ax,50 DIV B

main endp end main

Report:

Implement the following:

AL= ((5*10)+40)/9