Badji Moktar ANNABA university
Faculty of technology
Electronics departement
Microcontrollers and Microprocessors course

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TD6: Microcontroller PIC16F84

■ Ex1 : Basic W and RAM Operations

Perform the following operations:

- Put 0 into register **W**.
- Load the value **20h** into **W**.
- Copy the value in **W** to RAM address **20h**.
- Load into **W** the value stored at RAM address **20h**.
- Load the decimal value **20** , then in Hexadecimal into **W**.

■ EX2 Bit Manipulation and Decrement Operations

- Set bit **5** of RAM address **03h**.
- Decrement the value stored at address **20h**, and store the result back into **20h**.
- Decrement the value at address **20h**, and store the result in **W**.
- Decrement the value at address **20h**, and store the result at address **21h**.
- Test if the **Carry bit (C)** of the **STATUS** register is equal to 1.

■ Ex3 Addition in RAM

Write a program that adds two RAM variables, named **Val1** and **Val2**, and stores the result in an 8-bit variable called **Res**.

■ EX4 Read From PORTB

- Configure **PORTB** as input.
- Read the value of **PORTB**.
- Store the value into RAM address **0Ch**.

■ EX5 Arithmetic Operation

a) Write a PIC16F84 program that computes:

$$(100+15-31)/4$$

Store the result in any RAM location.

b) Write a program that multiplies: 5×10 ; and stores the result in RAM address **0Ch**.