

GUC
German University in Cairo
Faculty of Engineering and Material Science
Department of Mechatronics Engineering

Mechatronics Engineering
Lab 1 Validation

Due date: To be submitted in your Lab 2 slot.

Student Name:	
GUC ID:	

Problem Statement

It is required to solve the following questions

- **Question 1:**

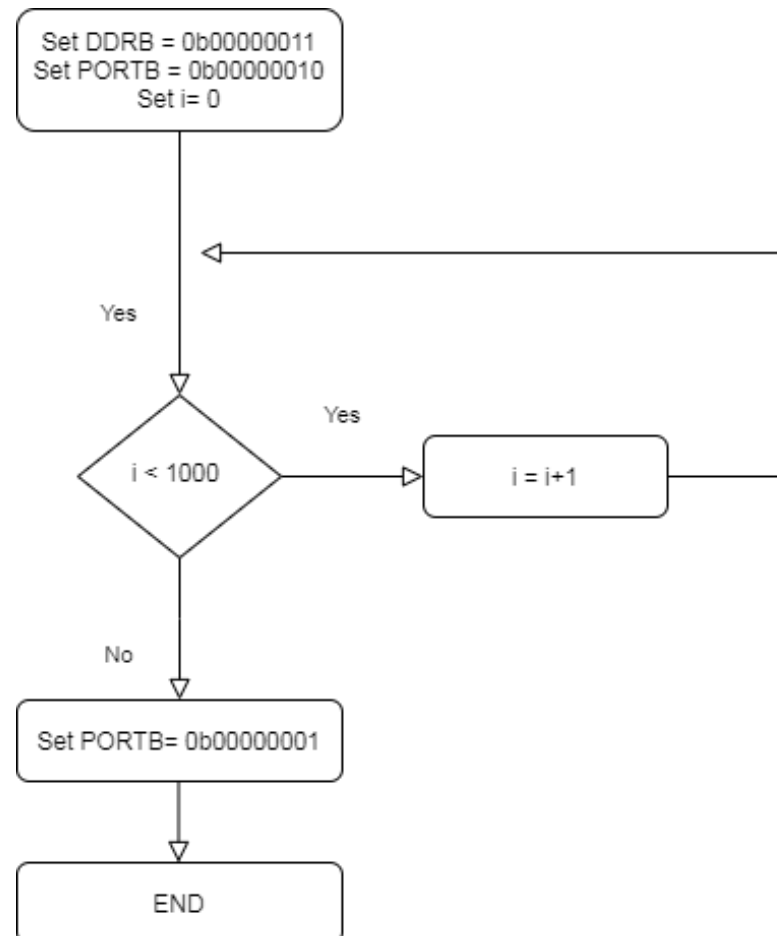
What is the difference between Microprocessor and Microcontroller?

- **Question 2:**

What is the function of **DDRB** and **PORTB** Registers in **ATmega328P** Microcontroller?

- **Question 3:**

Write a C code on Microchip Studio that performs the following functionality according to the flowchart?



- **Question 4:**

What is the total number of cycles and total time taken by the code till the end with crystal of frequency 16 MHz?

- **Question 5:**

What is the function of the loop in this code?