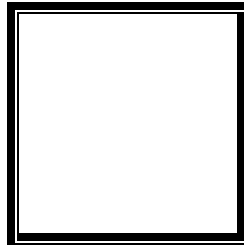# PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

MICROPROCESSOR (LECTURE)

Activity No. 1
Review of Terminologies

Score

Submitted by:
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<Saturday 1:00 – 7:00pm> / <CPE 0412 & CPE 0412.1>

Date Submitted
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Submitted to:

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Instruction:

A. Define and discuss the following terminologies related to microprocessor systems:
   1. MPU
      - Computers' central processing units (CPUs) are silicon components known as microprocessor chips (MPU). They employ a set of machine instructions to carry out mathematical calculations and transfer data between different memory locations. They are made up of thousands of electrical components. A data bus, which can transport data to memory or receive data from memory, read and write lines, and an address bus are all components of a microprocessor. Additionally, they have a reset line that restarts execution and resets the program counter as well as a clock line that enables a clock pulse to sequence the processor.

   2. MCU
      - An MCU is a smart semiconductor integrated circuit (IC) made up of a processor, memory modules, interfaces for communication, and peripherals. A wide variety of devices, such as washing machines, robotics, drones, radios, and game controllers, utilize MCU technology. a system for moderating videoconferences involving three or more endpoints (users in the same place). The screen is divided into one large and numerous smaller windows in the standard "continuous presence" mode, and the MCU delivers the dominant speaker's video to the large window. The speaker is shown only in one window in "Voice switch" mode. In "chair mode," the screen is managed by a human moderator. The audio from all endpoints is combined by the MCU's audio bridge.

   3. Features of microprocessor and microcontroller

Feature	Microcontroller (µC)	Microprocessor (µP)
Purpose	Specifically designed for embedded system applications	It is intended for general-purpose computer applications.
Architecture	Computer system on a single chip having on-board memory, peripherals, and I/O ports.	CPU with the least amount of on-board memory, peripherals, and I/O interfaces
Integration level	Highly integrated	Less integrated
System architecture	Single-chip system	CPU + support chips
Processing power	Lower power	Higher power
Instruction set	Fixed instruction set	More flexible
On-board memory	On-chip memory	No on-board memory
Input/Output (I/O)	More I/O ports	Fewer I/O ports
Peripheral devices	On-board peripherals	External peripherals
Cost	Lower cost	Higher cost
Power consumption	Lower power	Higher power
Applications	Embedded systems	General-purpose
Development	Manufacturers' integrated development environment (IDE), which includes specific programming languages and tools.	C, C++, and assembly are examples of standard development tools and languages.
Clock speed	Lower clock speed, typically less than 100 MHz	Higher clock speed, typically greater than 1 GHz

4. Applications of microprocessor and microcontroller
   - Microcontrollers are mostly employed in tiny applications such as washing machines, cameras, security alarms, keyboard controllers, and so on, whereas microprocessors are utilized in Personal Computers, complex industrial controllers, traffic lights, and defense systems, among other things.

B. Cite your References below.

Microprocessor, Microprocessor Unit (MPU) - Semiconductor Engineering. (2020, February 20). Semiconductor Engineering. https://semiengineering.com/knowledge_centers/integrated-circuit/ic types/processors/microprocessor-microprocessor-unit-mpu/

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