Microcontrollers

Team Emertxe

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Microcontrollers

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Introduction

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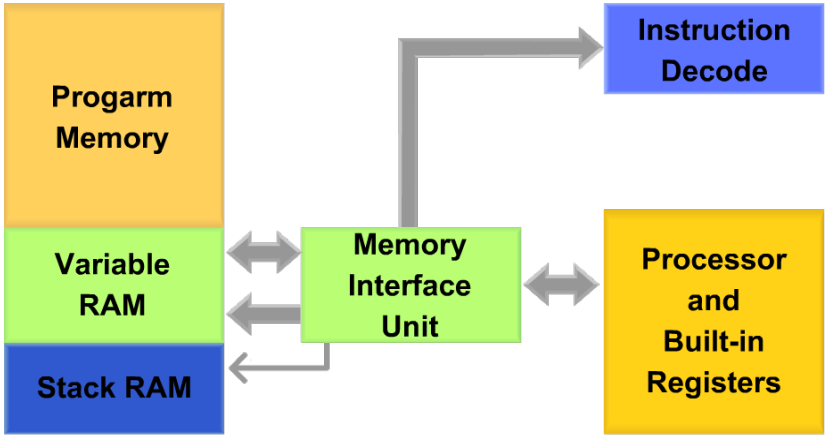
Introduction

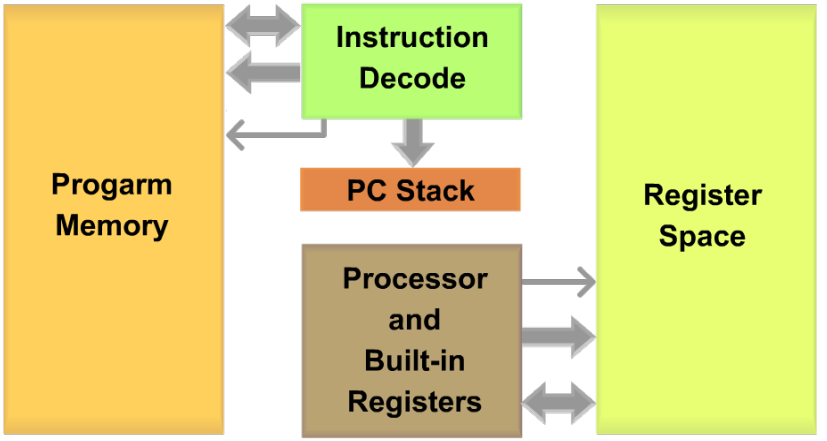
What is a Microcontroller?

- An Integrated Circuit which is capable of being programmed to preform a specific task.
- The design normally has restrictions on its
  - Memory Size
  - I/O Capabilities
  - Peripheral Functions etc.,

Introduction
General Architectures



Von Neuman Architecture



Harvard Architecture

- Shared signals and memory for code and data

- Physically separate signals and storage for code and data

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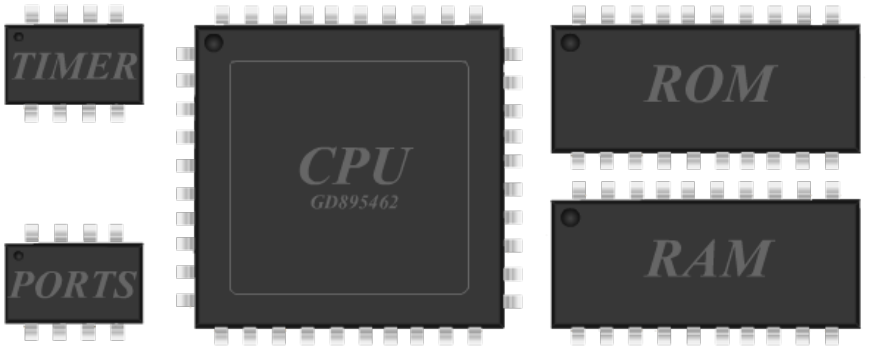
µP vs µC - Microprocessors

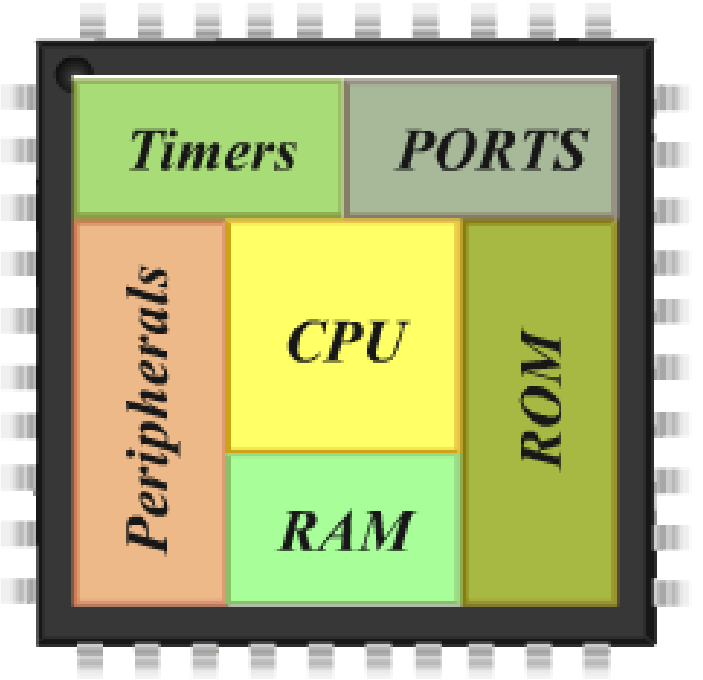
- All separate components
- More flexible
- More design complexity



Introduction

µP vs µC - Microcontroller

- All components in single chip
- Less flexible
- Less design complexity



Introduction

Choosing a Microcontroller

- Applications
- Performance
- Price
- Availability
- Availability of Tools
- Special Capabilities

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Thank You