

INSIDE A MICROPROCESSOR,
WHAT HAPPENS WHEN YOU...

- Multiply two numbers?
- Compare two variables?
- Add one to a number?
- Print a string?
- Press a key on a keyboard?
- ...

HOW DOES A COMPUTER COMPUTE?

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CLASS VS. MCDONALD'S

How to prepare a burger

HOW DO WE EVEN MAKE A BURGER?

- Ingredients
- A recipe
- A place to cook it
- A person to follow the recipe

YOUR APPROACH

You have 5 minutes max.

(Go big, or go home)

MCDONALD'S APPROACH

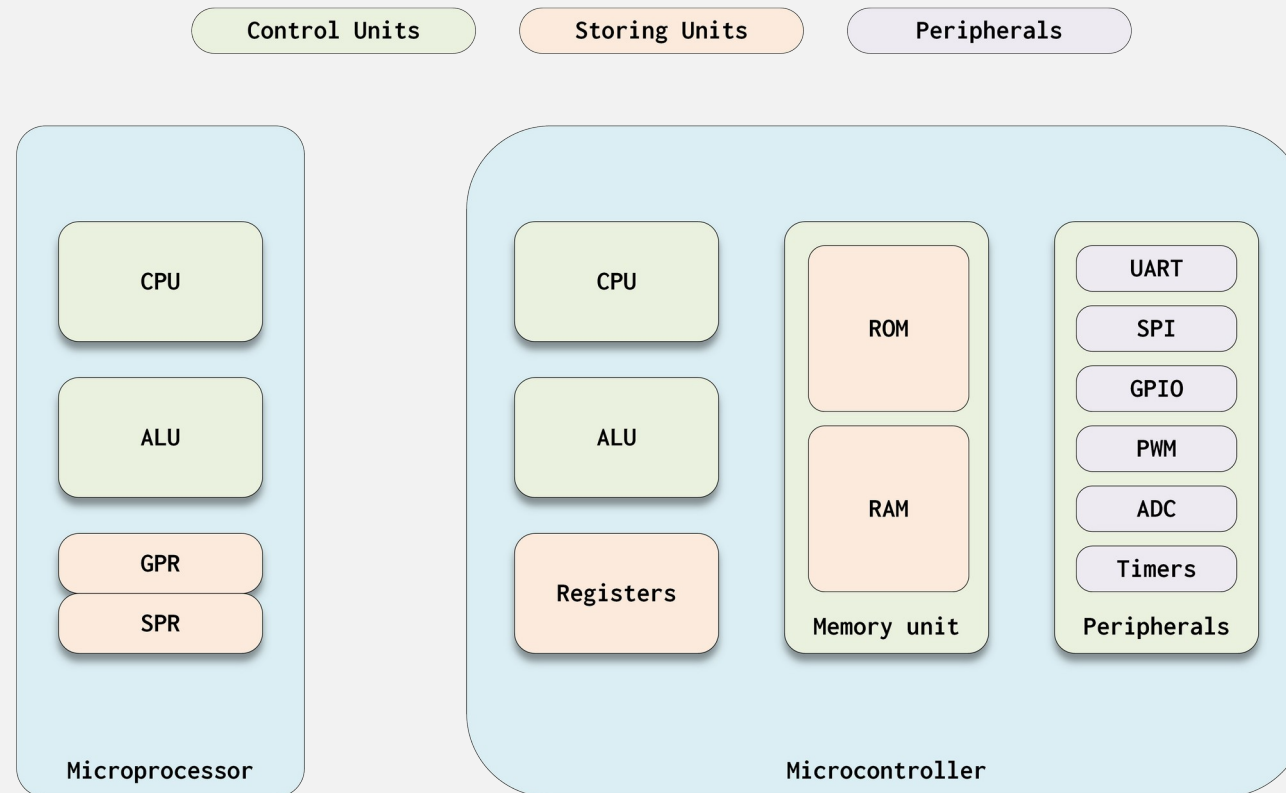
(Or my interpretation of it)

- The company distributes the equipment, provided with certain standards from local providers as well as the ingredients. Also, in every store they provide cooking manuals and people trained to train other people.
- The work is divided by groups, some people oversee the arriving goods, some people prepare the ingredients and place them in specific containers, some cook, some take orders and deliver, some do packaging, some clean and some supervise.
- Once everything is in place, the ingredients arrive and are prepared and stored at certain times, the meat is precooked, and the cooks just “assembly” the ingredients to then finish cooking, pack and deliver as the orders arrive.

DIVIDE & CONQUER

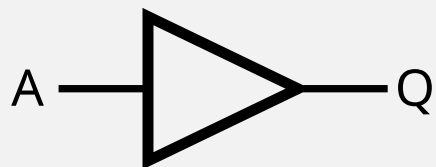
WHAT IS THE ALU?

MICROCONTROLLER VS MICROPROCESSOR

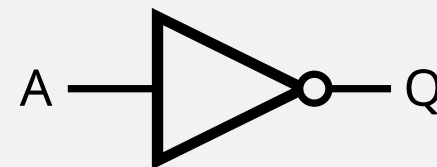


DIGITAL SYSTEMS BASICS

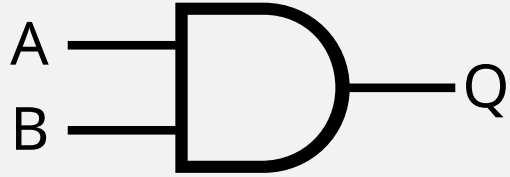
(BRIEF REVIEW)



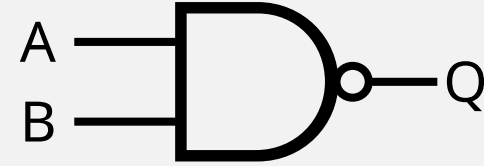
BUFFER	
A	Q
0	0
1	1



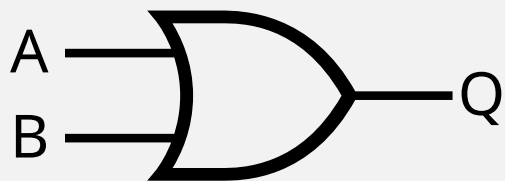
NOT	
A	Q
0	1
1	0



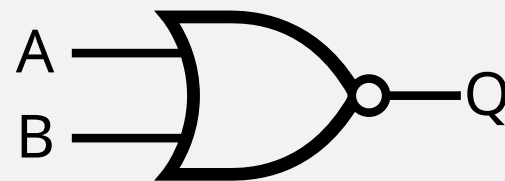
AND		
A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1



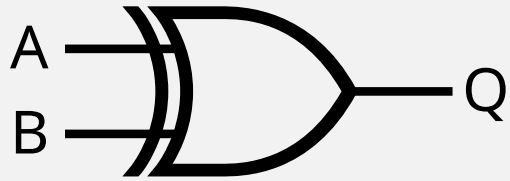
NAND		
A	B	Q
0	0	1
0	1	1
1	0	1
1	1	0



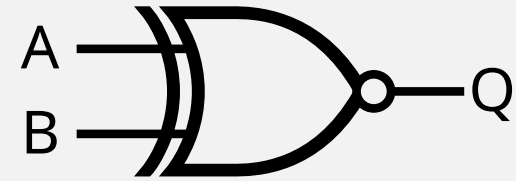
OR		
A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1



NOR		
A	B	Q
0	0	1
0	1	0
1	0	0
1	1	0



XOR		
A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0



XNOR		
A	B	Q
0	0	1
0	1	0
1	0	0
1	1	1

ADDING TWO NUMBERS

ADDING TWO NUMBERS V2

MULTIPLYING TWO NUMBERS

COMPARE TWO NUMBERS

ME WHEN...

Me when I see you deliver a homework
that is just a copy-paste of a ChatGPT
query

