

Template Week 3 – Hardware

Student number: 561444

Assignment 3.1: Examine your phone

What processor is in your phone? A15 Bionic

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used? ARMv8.6-A

How much RAM is in it? 6 GB

How much storage does your phone have? 128 GB

What operating system is running on your phone? iOS 18.0.1

Approximately how many applications do you have installed? 73

Which application do you use the most? Messenger

Can your phone be charged with what type of plug? Lightning

Which I/O ports can you visually see on your phone? Lightning port, SIM card tray

Assignment 3.2: Examine your laptop

What processor is in your laptop? Intel Core i7-1165G7

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used? x86-64

How much RAM is in it? 16 GB LPDDR4X

How much storage does your laptop have? 1 TB SSD

Which operating system is running on your laptop? Windows 10

Approximately how many applications do you have installed? 74

Which application do you use the most? Discord

Can your laptop be charged with what type of plug? USB-C

Which I/O ports can you visually see on your laptop? 2x Thunderbolt 4 USB-C, 1x USB 3.2 Gen 1 Type-A, 1x HDMI 2.0, MicroSD card reader

Assignment 3.3: Power to the laptop

What is the input voltage? 100-240V

What is the output voltage? 19V

How many watts can your power adapter deliver? 65W

Is the input voltage AC or DC? AC

Is the output voltage AC or DC? DC

AC/DC what is that?

AC (Alternating Current) is the type of power supplied by wall outlets, where the current changes direction periodically. DC (Direct Current) flows in one direction and is used by most electronic devices, including laptops.

If you reverse the polarity of the output voltage, is that bad for your laptop?

It can damage the laptop or the adapter circuitry since electronic devices are designed to receive current in a specific direction

You forgot your power adapter, your laptop normally needs 15 watts. You will be loaned a power adapter that can deliver 50 watts. Voltage, polarity, etc. are all the same compared to the original power adapter. You can connect the borrowed power adapter to your laptop. What will happen? Also explain why you think that.

Laptop will function, but it may charge more slowly if the power demand exceeds 50W. No harm will occur since the voltage matches, and the laptop only draws as much power as needed.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

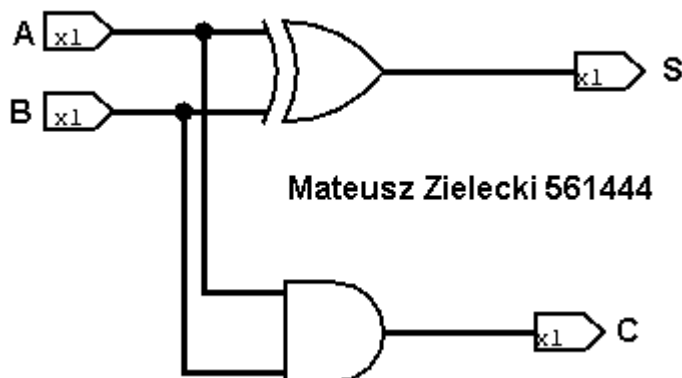
Component	Selection	Base	Promo	Shipping	Tax	Price	Where	
CPU	Intel Core i7-14700K 3.4 GHz 20-Core Processor	€398.84	—	Prime	—	€398.84	amazon.it	Buy
CPU Cooler	Corsair iCUE H100i ELITE CAPELLIX 75 CFM Liquid CPU Cooler	—	—	—	—	No Prices Available	—	Buy
Motherboard	Asus TUF GAMING Z790-PLUS WIFI ATX LGA1700 Motherboard	€227.43	—	Prime	—	€227.43	amazon.it	Buy
Memory	G.Skill Trident Z5 RGB 64 GB (2 x 32 GB) DDR5-6400 CL32 Memory	€236.90	—	Prime	—	€236.90	amazon.it	Buy
	+ Add Additional Memory							
Storage	Samsung 980 Pro 1 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€106.99	—	€3.95	—	€110.94	AZERTY	Buy
	+ Add Additional Storage							
Video Card	Asus ProArt OC GeForce RTX 4060 Ti 16 GB Video Card	€549.41	—	Prime	—	€549.41	amazon.it	Buy
	+ Add Another Video Card							
Case	NZXT H510 ATX Mid Tower Case	—	—	—	—	No Prices Available	—	Buy
Power Supply	Corsair RM750e (2023) 750 W 80+ Gold Certified Fully Modular ATX Power Supply	€110.95	—	Prime	—	€110.95	amazon.it	Buy
Operating System	Microsoft Windows 11 Home OEM - DVD 64-bit	€128.85	—	FREE	—	€128.85	MEDGROD	Buy
Monitor	Asus TUF Gaming VG27AQ 27.0" 2560 x 1440 165 Hz Monitor	€246.42	—	—	—	€246.43	amazon.it	Buy
	+ Add Another Monitor							
Expansion Cards / Networking	Sound Cards, Wired Network Adapters, Wireless Network Adapters							
Peripherals	Headphones, Keyboards, Mice, Speakers, Webcams							
Accessories / Other	Case Accessories, Case Fans, Fan Controllers, Thermal Compound, External Storage, Optical Drives, UPS Systems							
						Base Total:	€2005.80	
						Shipping:	€3.95	
						Total:	€2009.75	

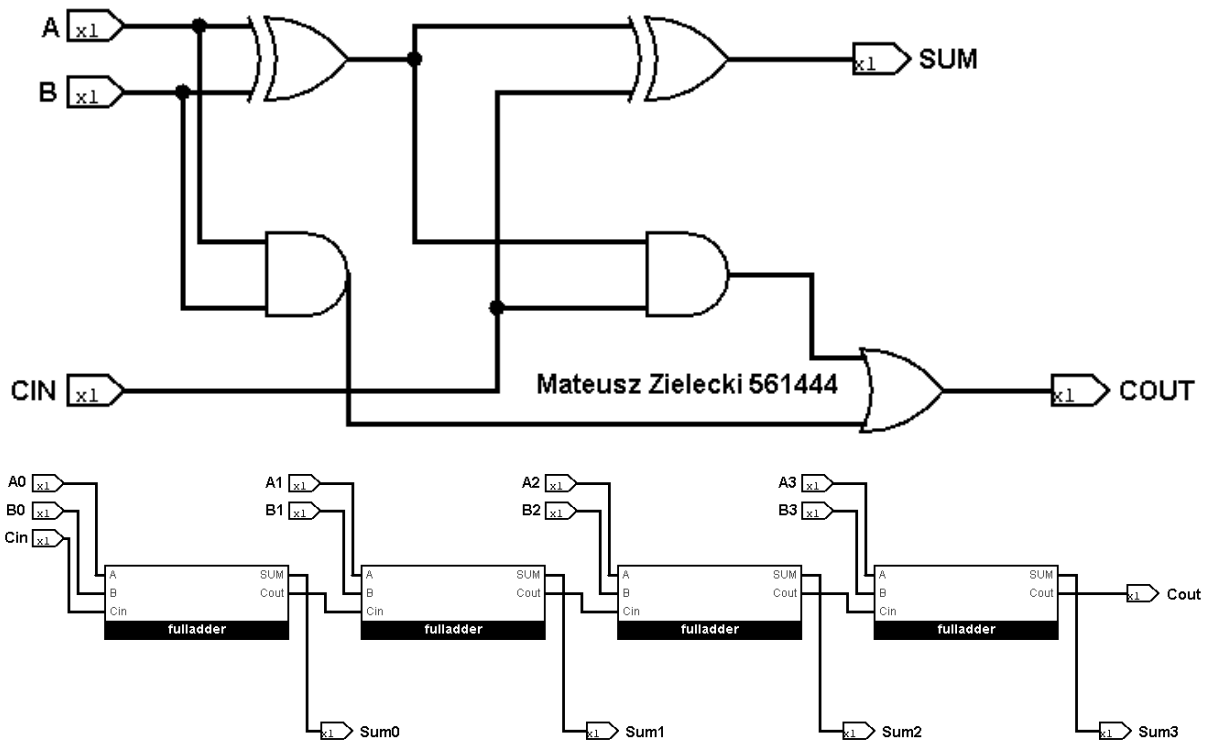
This PC is built to handle both gaming and programming with ease. The processor and graphics card are powerful enough for smooth gaming and running heavy programs. The 32 GB of RAM and fast SSD make everything quick and responsive, whether you're gaming or working on projects. The components are selected for future-proofing within a reasonable budget, ensuring long-term usability and performance.

Bonus point assignment – week 3

Complete the **half adder**, **full adder** and **4-bit adder** assignment as described in the PowerPoint slides of week 3 in Logisim. Save the chip design and also export three PNG pictures of the separate finished designs. See the PowerPoint slides of week 3.

Paste the three exported PNG pictures in here.





Ready? Save this file and export it as a pdf file with the name: [week3.pdf](#)