Template Week 3 – Hardware

Student number: 575933

Assignment 3.1: Examine your phone

What processor is in your phone?: Exynos 2200 (4 nm)

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?: The ARM architecture family, ARMv9 ISA

How much RAM is in it?: 8 GB

How much storage does your phone have?: 256 GB

What operating system is running on your phone?: Android

Approximately how many applications do you have installed?: 246 Apps(I checked)

Which application do you use the most?: Youtube

Can your phone be charged with what type of plug?: Type c

Which I/O ports can you visually see on your phone? Only a usb-c charging port

Assignment 3.2: Examine your laptop

What processor is in your laptop?: AMD Ryzen 7735HS

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

How much RAM is in it?: 16 GB

How much storage does your laptop have?: 1 TB

Which operating system is running on your laptop?: Windows

Approximately how many applications do you have installed?: 30

Which application do you use the most?: Intellij idea

Can your laptop be charged with what type of plug?: barrel connector adapter.

Which I/O ports can you visually see on your laptop?: HDMI, charger port, USB-c, USB-a

Assignment 3.3: Power to the laptop

What is the input voltage?: 100-240V AC

What is the output voltage?: 19V DC

How many watts can your power adapter deliver?: 135W

Is the input voltage AC or DC?: ac

Is the output voltage AC or DC?: dc

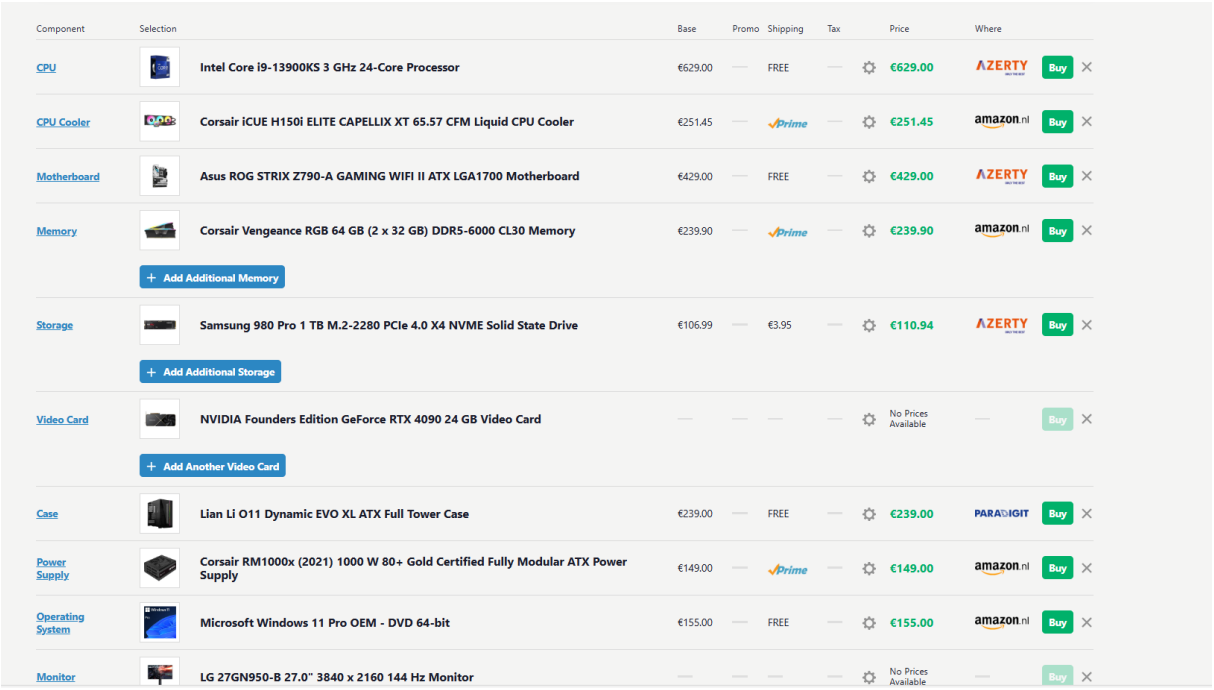
AC/DC what is that?: AC means alternating current which is the type of current that flows in both directions. DC means direct current which means it flows in one direction and is used by electronic devices.

If you reverse the polarity of the output voltage, is that bad for your laptop?: Yes, it can cause damage to the motherboard and the battery therefore it's really important to connect the adapter with the correct polarity.

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.: Nothing happens because the laptop will take only the 15 watts it needs. The most important thing in this case is for the voltage and polarity to be the same which they are.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:



Component	Selection	Base	Promo	Shipping	Tax	Price	Where
CPU	Intel Core i9-13900KS 3 GHz 24-Core Processor	€629.00	—	FREE	—	€629.00	AZERTY Buy
CPU Cooler	Corsair iCUE H150i ELITE CAPELLIX XT 65.57 CFM Liquid CPU Cooler	€251.45	—	Prime	—	€251.45	amazon.nl Buy
Motherboard	Asus ROG STRIX Z790-A GAMING WIFI II ATX LGA1700 Motherboard	€429.00	—	FREE	—	€429.00	AZERTY Buy
Memory	Corsair Vengeance RGB 64 GB (2 x 32 GB) DDR5-6000 CL30 Memory	€239.90	—	Prime	—	€239.90	amazon.nl 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	NVIDIA Founders Edition GeForce RTX 4090 24 GB Video Card	—	—	—	—	No Prices Available	— Buy
	+ Add Another Video Card						
Case	Lian Li O11 Dynamic EVO XL ATX Full Tower Case	€239.00	—	FREE	—	€239.00	PARADIGIT Buy
Power Supply	Corsair RM1000x (2021) 1000 W 80+ Gold Certified Fully Modular ATX Power Supply	€149.00	—	Prime	—	€149.00	amazon.nl Buy
Operating System	Microsoft Windows 11 Pro OEM - DVD 64-bit	€155.00	—	FREE	—	€155.00	amazon.nl Buy
Monitor	LG 27GN950-B 27.0" 3840 x 2160 144 Hz Monitor	—	—	—	—	No Prices Available	— Buy

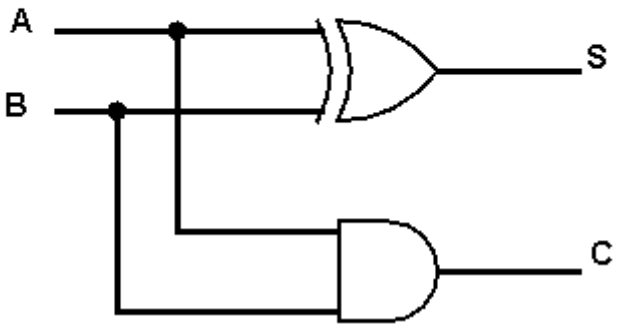
The intel core i9-13900ks is great for gaming along with the best(right now) video card nvidia rtx, making any game smooth. The asus ROG STRIX Z790-A GAMING WIFI II ATX LGA1700 Motherboard supports the latest intel cpus and ddr5 ram. Ram of 64 GB ensures that you are ready for future use although 32 GB is more than enough. The Samsung 980 PRO 1 TB offers great reading/writing speeds, perfect for loading large games. A 1000W power supply is more than enough for the video card and processor selected. The windows 11 PRO is the best for gaming. The cooling selected also does great cooling. It will keep things cool even during the heat of battle. The monitor selected has a display of 144 HZ that's good for shooting games although I don't play shooting games. It's best to aim for the good stuff anyway. The case chosen is spacious with good airflow and cable management.

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.

Lyana 575933



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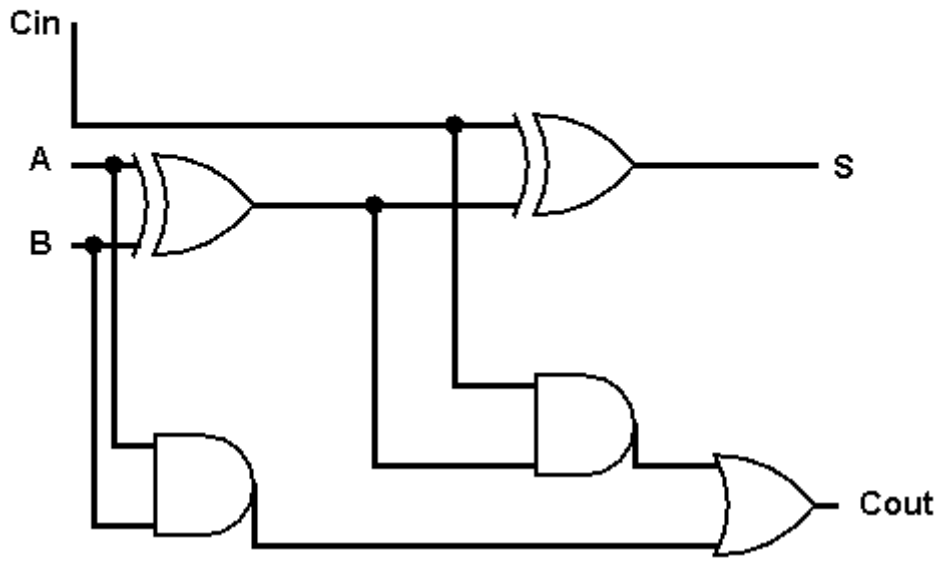

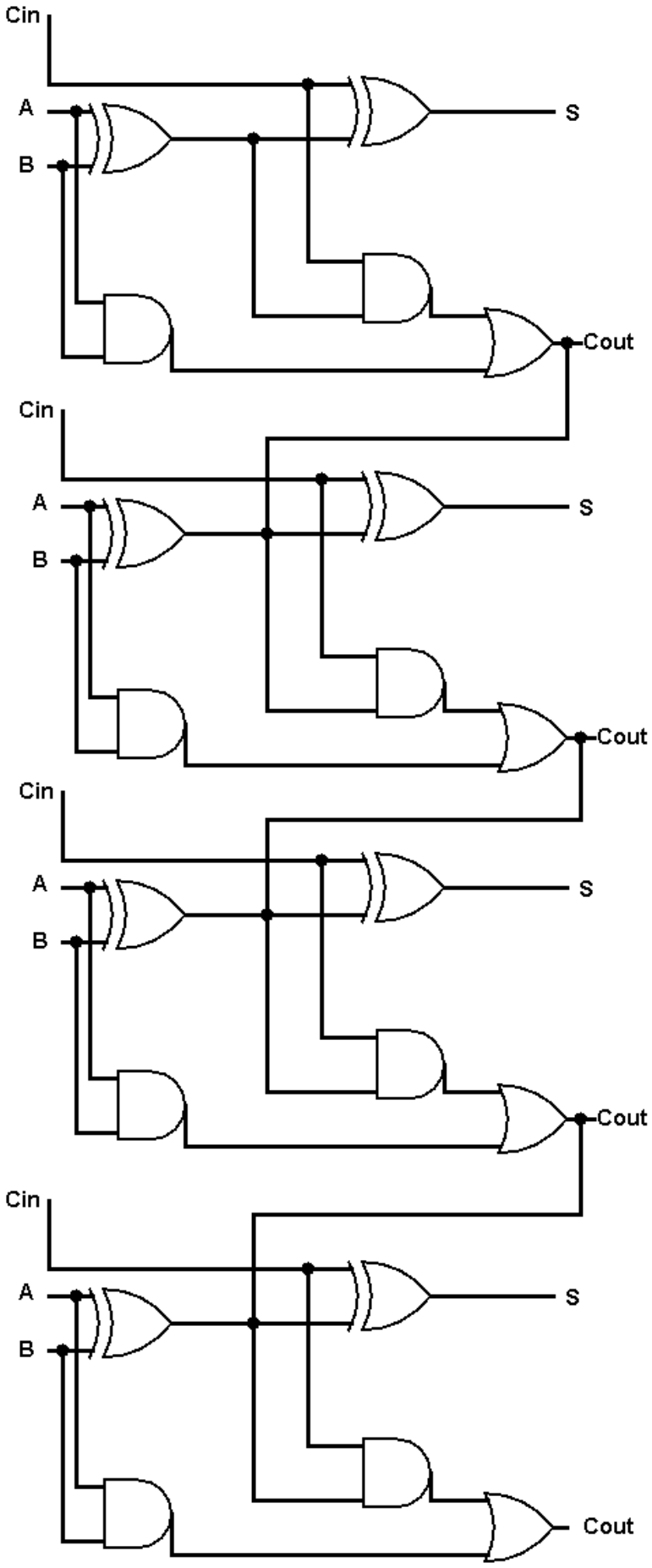
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