

Template Week 3 – Hardware

Student number: 569508

Assignment 3.1: Examine your phone

What processor is in your phone?

Qualcomm Snapdragon 8 Gen 3 processor

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

ARM architecture

How much RAM is in it?

16 GB RAM

How much storage does your phone have?

512 GB Storage

What operating system is running on your phone?

Android 14 with Samsung One UI 6

Approximately how many applications do you have installed?

25 apps

Which application do you use the most?

Instagram

Can your phone be charged with what type of plug?

USB Type C

Which I/O ports can you visually see on your phone?

Speaker grills, USB Type C, SIM card tray

Assignment 3.2: Examine your laptop

What processor is in your laptop?

AMD Ryzen 7 3700U

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

AMD64 (x86-64)

How much RAM is in it?

16 GB

How much storage does your laptop have?

512 GB

Which operating system is running on your laptop?

Windows 11

Approximately how many applications do you have installed?

30 applications

Which application do you use the most?

IntelliJ IDEA and Chrome

Can your laptop be charged with what type of plug?

Uses a standard barrel power connector for charging

Which I/O ports can you visually see on your laptop?

HDMI, 2xUSB, 1xUSB Type C, Ethernet, audio jack

Assignment 3.3: Power to the laptop

What is the input voltage?

The input voltage of my laptop is between 100–240V AC

What is the output voltage?

20V DC

How many watts can your power adapter deliver?

65 Watts

Is the input voltage AC or DC?

The input voltage is AC

Is the output voltage AC or DC?

The output voltage is DC

AC/DC what is that?

AC (Alternating Current): Electricity where the current periodically changes direction

DC (Direct Current): Electricity where the current flows in one direction










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

Yes, because it can damage the components of the laptop

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.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

CPU		AMD Ryzen 9 9950X 4.3 GHz 16-Core Processor	€749.00	—	FREE	—	⚙️	€749.00	ALTERNATE	Buy	×
CPU Cooler		NZXT Kraken Elite 360 RGB 78.02 CFM Liquid CPU Cooler	€249.00	—	Prime	—	⚙️	€249.00	amazon.nl	Buy	×
Motherboard		Asus ROG CROSSHAIR X870E HERO ATX AM5 Motherboard	€659.00	—	FREE	—	⚙️	€659.00	ALTERNATE	Buy	×
Memory		Corsair Dominator Titanium 64 GB (2 x 32 GB) DDR5-6600 CL32 Memory	€296.00	—	Prime	—	⚙️	€296.00	amazon.nl	Buy	×
+ Add Additional Memory											
Storage		Western Digital WD Black SN850X 2 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€144.90	—	FREE	—	⚙️	€144.90	AZERTY	Buy	×
+ Add Additional Storage											
Video Card		Asus ROG STRIX GAMING OC GeForce RTX 4090 24 GB Video Card	€4260.43	—	—	—	⚙️	€4260.43	amazon.nl	Buy	×
+ Add Another Video Card											
Case		Corsair 4000D Airflow ATX Mid Tower Case	€74.90	—	FREE	—	⚙️	€74.90	ALTERNATE	Buy	×
Power Supply		Corsair SF1000 (2024) 1000 W 80+ Platinum Certified Fully Modular SFX Power Supply	€224.83	—	Prime	—	⚙️	€224.83	amazon.nl	Buy	×
Operating System		Microsoft Windows 11 Home OEM - DVD 64-bit	€128.85	—	FREE	—	⚙️	€128.85	MEGEKKO	Buy	×

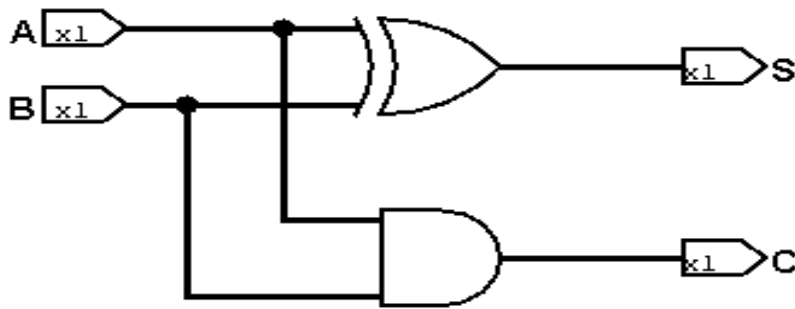
With this pc configuration I wouldn't have a problem in the future. For example lacking a free space or a graphical issue.

Bonus point assignment – week 3

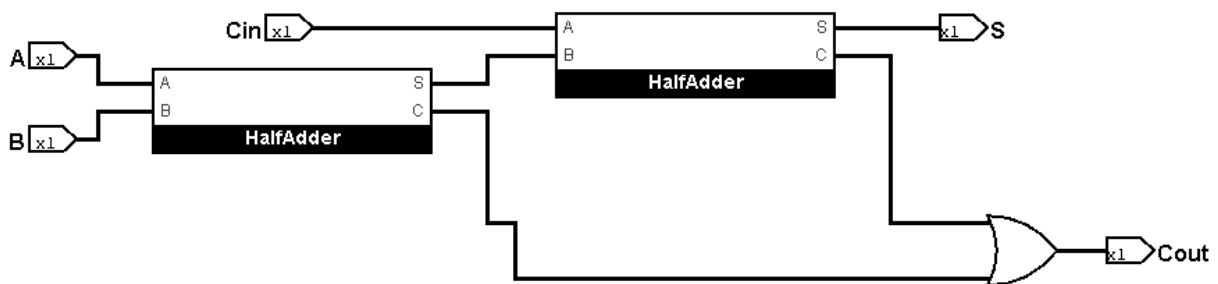
Complete the **half adder**, **full adder** and **4-bit adder** assignment as described in the PowerPoint slides of week 3 in Logisim. Save the chip design and also export three PNG pictures of the separate finished designs. See the PowerPoint slides of week 3.

Paste the three exported PNG pictures in here.

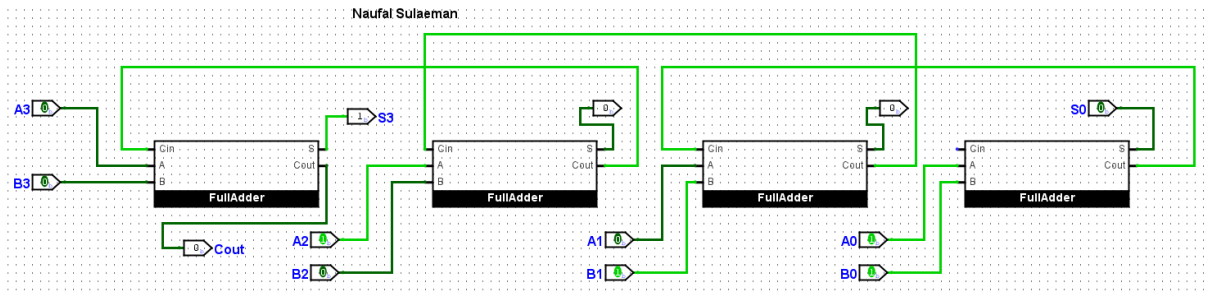
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