Template Week 3 – Hardware

Student number: 592801

Assignment 3.1: Examine your phone

Ik he been iPhone 13 Pro.

What processor is in your phone? A15 Bionic chip

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used? De processor is ARM gebaseerd, 64 bits

How much RAM is in it? 6GB

How much storage does your phone have? 128gb

What operating system is running on your phone? IOS 18.6.2

Approximately how many applications do you have installed? Rond de 200

Which application do you use the most? Tiktok, Snapchat

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

Which I/O ports can you visually see on your phone? Lightning poort, speaker/microfoon, SIM vakje, volume knoppen, geluid aan/uit knop, power button

Assignment 3.2: Examine your laptop

Ik heb een Acer Aspire A715-42G

What processor is in your laptop? AMD Ryzen 5 5500U with Radeon Graphics

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? 16GB

How much storage does your laptop have? 499 GB

Which operating system is running on your laptop? Windows 11

Approximately how many applications do you have installed? 300

Which application do you use the most? Google

Can your laptop be charged with what type of plug? ''round barrel power plug''

Which I/O ports can you visually see on your laptop? Linkerkant: HDMI port, USB Type C port, 2 standaard USB ports, Ethernet port, Security Lock. Rechterkant: Power plug, Standaard USB port, 3.5mm headphone port

Assignment 3.3: Power to the laptop

What is the input voltage? 250V

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, stopcontacten gebruiken dit, wissel spanning verandert van richting telkens. DC = Direct Current, stroom loopt in 1 richting, telefoons, laptops etc gebruiken dit

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

Ja dan kan de laptop stuk gaan

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.

De laptop neemt alleen de watts die hij nodig heeft, de adapter kan tot 50 watt leveren maar het is niet nodig

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

Component	Selection		Base	Promo	Shipping	Tax	Availability	Price	Where	
CPU		AMD Ryzen 5 5600 3.5 GHz 6-Core Processor	€107.00	—	FREE	—	In stock	€107.00	AZERTY	Buy ✕
CPU Cooler		Cooler Master Hyper 212 Black Edition 42 CFM CPU Cooler	€46.11				In stock	€46.11	amazon.nl	Buy ✕
Motherboard		MSI B550-A PRO ATX AM4 Motherboard	€98.62		✓Prime		In stock	€98.62	amazon.nl	Buy ✕
Memory		Corsair Vengeance LPX 16 GB (2 x 8 GB) DDR4-3200 CL16 Memory	€60.90		✓Prime		In stock	€60.90	amazon.nl	Buy ✕
	+ Add Additional Memory									
Storage		Crucial P3 Plus 1 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€99.00	—	FREE	—	In stock	€99.00	AZERTY	Buy ✕
	+ Add Additional Storage									
Video Card		AMD Radeon RX 6950 XT Radeon RX 6950 XT 16 GB Video Card	—	—	—	—	No Prices Available	—		Buy ✕
	+ Add Another Video Card									
Case		NZXT H510 ATX Mid Tower Case	—	—	—	—	No Prices Available	—		Buy ✕
Power Supply		Corsair CX650M 650 W 80+ Bronze Certified Semi-modular ATX Power Supply	€299.00	—	—	—	In stock	€299.00	amazon.nl	Buy ✕
Operating System		Microsoft Windows 11 Home OEM - DVD 64-bit	€125.00	—	FREE	—		€125.00	PARADIGIT	Buy ✕
Monitor		MSI PRO MP251 E2 24.5" 1920 x 1080 120 Hz Monitor	€97.99	—	—	—	In stock	€97.99	amazon.nl	Buy ✕
	+ Add Another Monitor									

Ik heb nog niet echt een PC nodig, maar als ik er een koop, wil ik er wel GTA 6 op spelen, deze parts zijn niet te duur en gta 6 kan hier wel op draaien. Ook heb ik 1 TB wel nodig, dat merk ik op mijn laptop die 499 GB heeft, ik heb wel meer ruimte nodig.
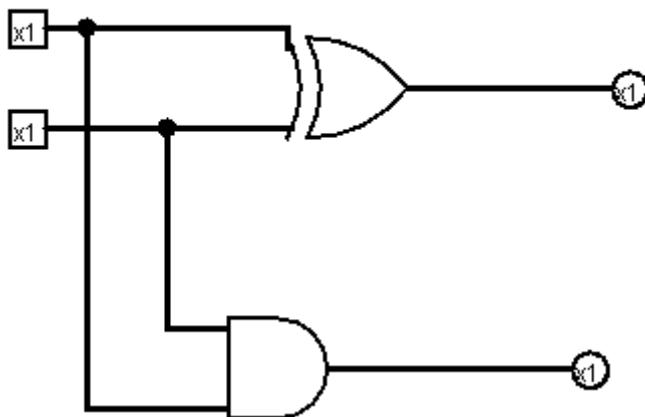
Assignment 3.5: Adders

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.

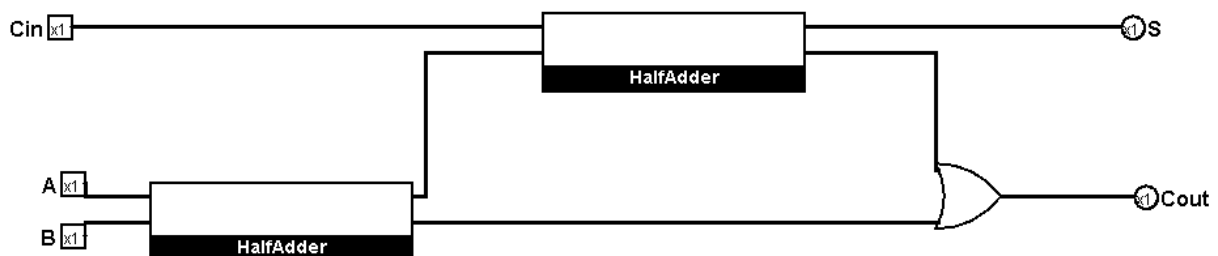Paste the three exported PNG pictures in here.
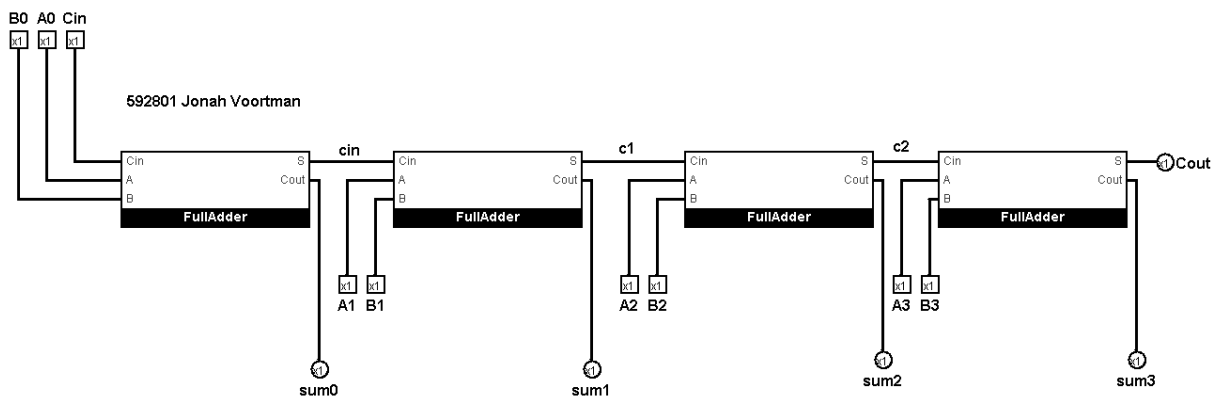
Half Adder:

592801 Jonah Voortman

Full Adder:

592801 Jonah Voortman

4 bit adder:

592801 Jonah Voortman

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