# Template Week 3 – Hardware

Student number: 575798

**Assignment 3.1: Examine your phone**

What processor is in your phone?

Exynos 1480

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

This processor belongs to the ARM architecture family. The specific Instruction Set Architecture (ISA) used by the CPU cores is ARMv8.2-A.

How much RAM is in it?

I have 8GB RAM

How much storage does your phone have?

I have 256GB.

What operating system is running on your phone?

My phone runs on the Android operating system.

Approximately how many applications do you have installed?

I have 306 apps installed

Which application do you use the most?

I use Instagram the most.

Can your phone be charged with what type of plug?

My phone charger is a type C.

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

I have a charging port, speakers, a volume up and down button and a power button and a Sim card slot.

**Assignment 3.2: Examine your laptop**

What processor is in your laptop?

My processor is 1235U

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

My processor belongs to the x86 architecture family.

How much RAM is in it?

I have 16GB RAM.

How much storage does your laptop have?

My laptop has 512GB SSD.

Which operating system is running on your laptop?

Windows 11 is running on my laptop.

Approximately how many applications do you have installed?

I have 70 applications installed.

Which application do you use the most?

I use Discord the most.

Can your laptop be charged with what type of plug?

My laptop is charged with a HP round barrel charger (Smart pin).

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

I have a HDMI port,2 USB ports and one USB- C port and the charging port.

**Assignment 3.3: Power to the laptop**

What is the input voltage?

My input voltage is 100-240V

What is the output voltage?

My output voltage is 19.5V

How many watts can your power adapter deliver?

My laptop uses a 65- watt adapter.

Is the input voltage AC or DC?

The input voltage AC.

Is the output voltage AC or DC?

My output voltage is DC.

AC/DC what is that?

AC is alternating current, therefore the current changes direction many times per second. Direct current flows in one direction only.

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

Yes, because the positive and negative wires are flipped therefore can kill the battery or fry the motherboard.

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.

The laptop takes power from the adapter therefore nothing bad will happen.

**Assignment 3.4: Build your dream PC**
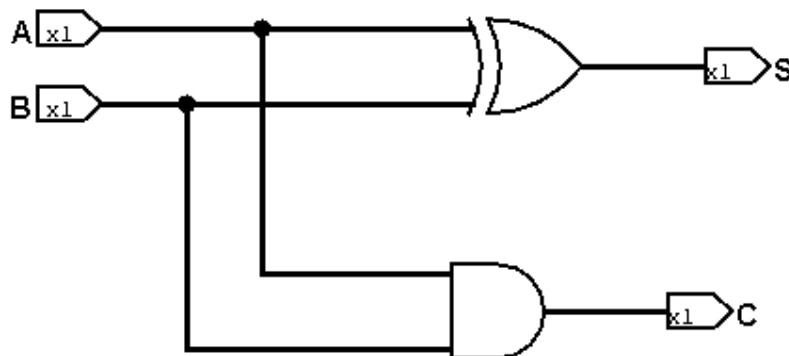
Screenshots PC configuration + motivation:

I would go with the Ryzen 7 7800 X3D as the CPU, because it is a well reputed CPU and the X3D technology really annihilates any game that's thrown at it. An AIO cooler makes the PC look pretty and the quality is immaculate. For the motherboard I would use an AM5 since it will be future proofing and long term and ATX so that my case would support it. DDR5 is a high-performance memory, it is sufficient memory for games or other leisure activities. Kingston also offers a long warranty which would be beneficial for me. The Samsung 990 EVO plus 2 offers very fast game loads. Samsung SSDs are also known for good firmware strong endurance. The RTX 4070 Ti provides 1440p therefore offers high fps and smooth performance. It also provides 4K with DLSS. The Corsair case is very aesthetically pleasing with the RGB showcase.  The layout is also builder friendly. The power supply easily handles power hungry GPUs since it is 900W. The OLED monitor provides a rich quality and high resolution creating incredible visuals.
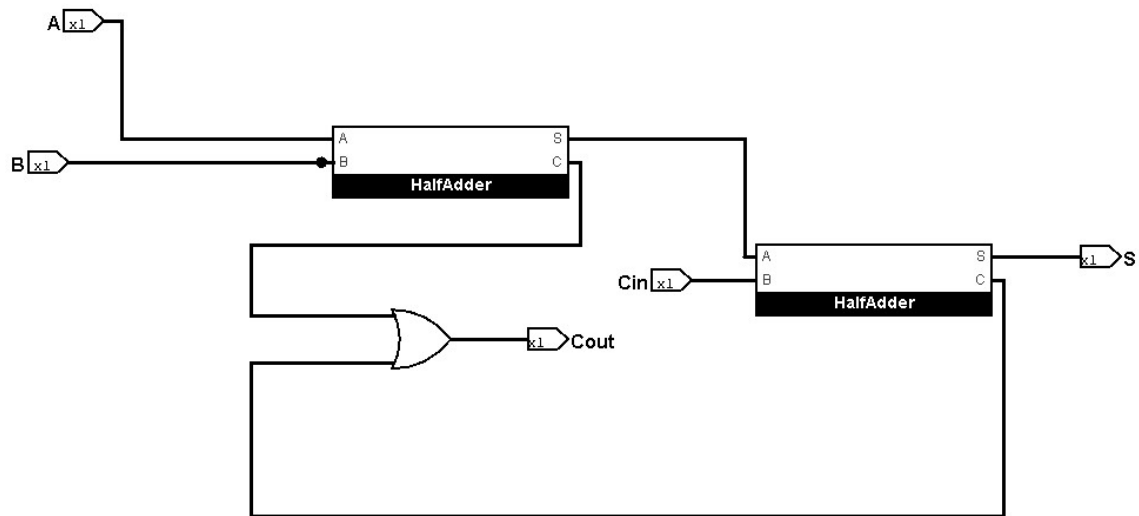
**Assignment 3.5: Adders**

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 export three PNG pictures of the separate finished designs. See the PowerPoint slides of week 3.
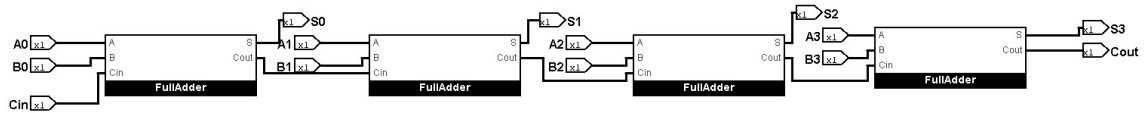
Paste the three exported PNG pictures in here.



Sheetal Macharla 575798

Ready? Save this file and export it as a pdf file with the name: **week3.pdf**