Follow the instructions here below.

LAB 1 – Part 1

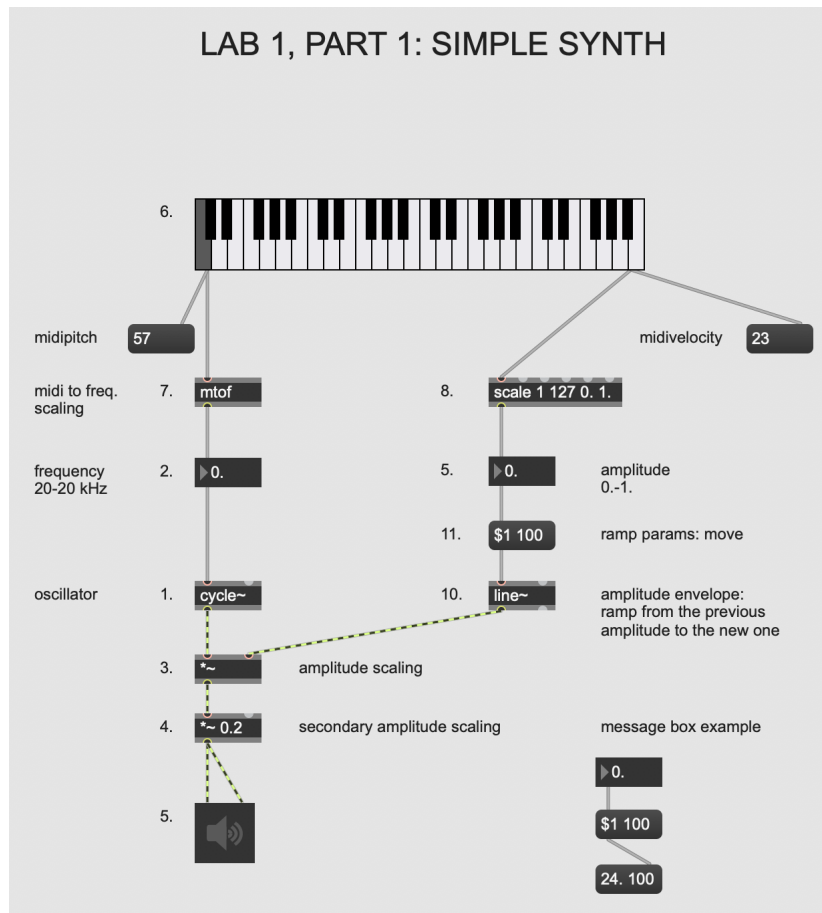Create this simple synthesizer below using the file "Lab1 - Part 1-DEMO.maxpat".

The patch has detailed instructions on the right side. You may also follow along with this step-by-step video that shows you how to make it and provides a guidance in working in the Max/MSP.

Lab 1 Part 1Video link:

https://media.ucsc.edu/V/Video?v=4085763&node=13878351&a=107298746&autoplay=1

Due: turn in a screen shot of your finished patch and name it as follows: "lastname firstname lab 1 part 1" Please also include a comment with your name in the patch.

Follow the video and the extensive comments within the patch to guide you to make this patch pictured below (next page).

LAB 1 – Part 2

Create this simple synthesizer below using the file "Lab1 - Part 2-DEMO.maxpat"

Due: turn in a screen shot of your finished patch and name it as follows: "lastname firstname lab 1 part 2". Please also include a comment with your name in the patch.

Lab 1 Part 2 Video link:
https://media.ucsc.edu/V/Video?v=4086296&node=13880413&a=52642495&autoplay=1

Follow the video demonstration and the extensive comments within the patch to guide you to make this patch pictured below.

Then, follow the instructions in Lab 1, Part 3 **BEFORE** closing this patch.
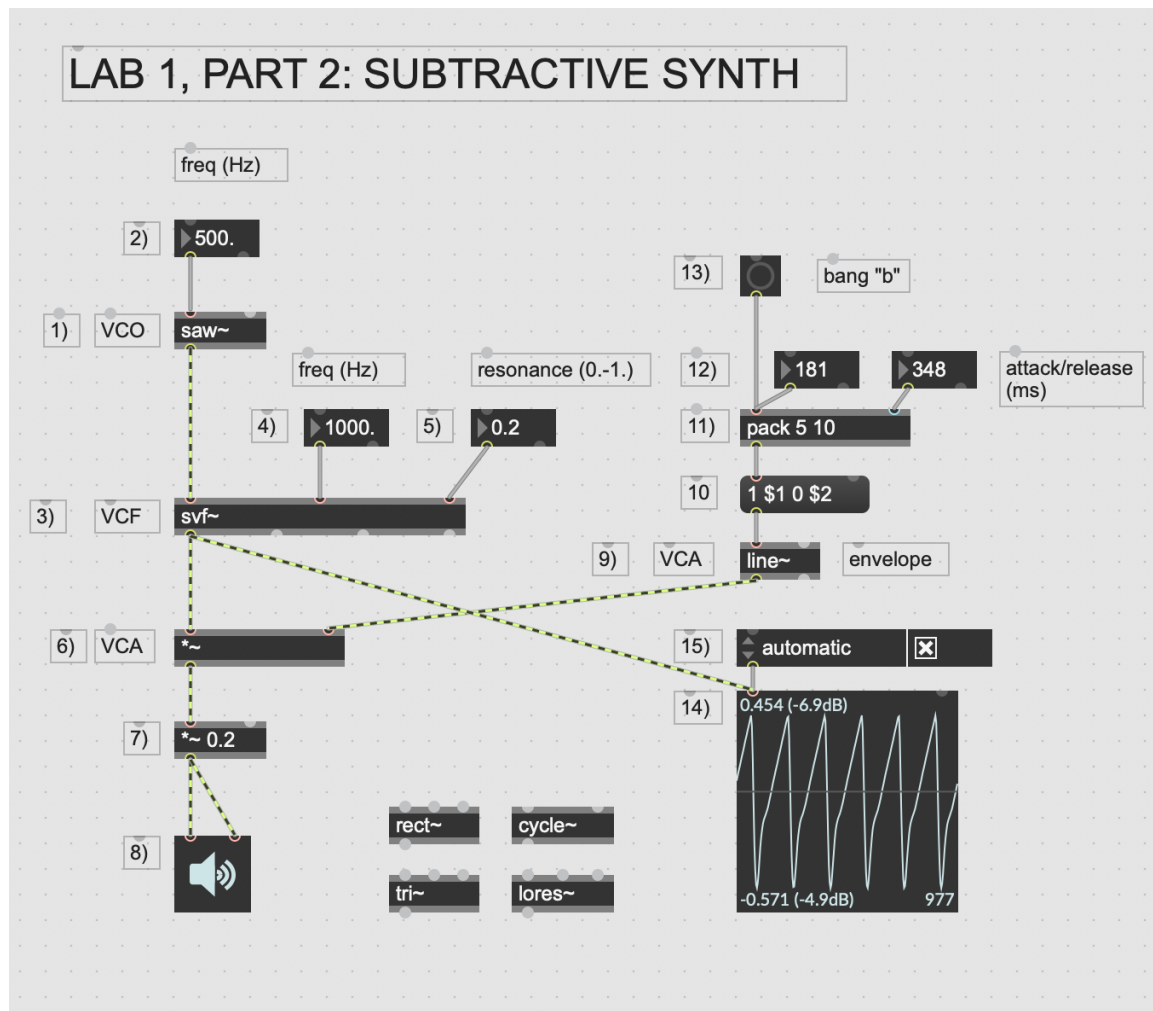
LAB 1 – Part 3

Due: Answer the questions below and turn in the answers in a document labeled as follows: "lastname firstname lab 1 part 3". Please save your document as a pdf.

1. Explore your subtractive synth by trying out different values for the parameters of:

VCO (frequency in Hz.),
VCF (frequency in Hz.)
VCF resonance (0.-1. range of values)
and envelope parameters for attack (ms.)
and release (ms.) times

Write down one set of values for all of these parameters above that is appropriate to make sound and sounds good to you.

2. **If the time of the attack is set to 0 seconds how does it sound? Why do you think this is?**

3. Change out the VCO with the cycle~, tri~ and rect~ waveforms. **How would you characterize the sound of the saw~ as VCO compared with the cycle~ as VCO? Why do you think that the saw waveform is more appropriate for subtractive synthesis than a sinewave?**

4. Alter the filter resonance to test values around 0.0, 0.5, and 0.9. Also, change the filter frequency at each resonance value. **Describe in a subjective way how the the filter resonance affects the sound**.

LAB 1 – Part 4

Lab 1 Part 4 Video link:

https://media.ucsc.edu/V/Video?v=7119061&node=30041632&a=213445286&autoplay=1

Open the file: Lab1-Part 3-Master.maxpat

Experiment with the same synthesizer patch using a sequencer that is already built into the program for you. You don't need to do any programming, just follow the video and explore this patch for yourself.