

## Lecture 1

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## Computer music

### MODR/human/Itec 2655

#### Open-Book & Open-Internet

#### Question 1 Chang tempo of a music video.

- Audacity is an audio editor while Avidemux is a video editor
- We need to process audio and video tracks separately, and then put them back together to achieve perfect synchronization which is required in music education.

1. To speed up/slow down audio, use the "[bpm or beats per minute](#)" **effect** in Audacity.
2. To speed up/slow down video, use "**fps** or frames per second" **filter** in Avidemux

#### For AVIDEMUX:

**Change FPS** = change duration of video.

**Resample FPS** = change and enforce FPS. Keep duration and sync.

We can download and install Avidemux and Audacity at your local device at: <http://oldtown.glendon.yorku.ca/~teaching/binary/>

- You can **also** use [Audacity](#) and [Avidemux](#) on-line as **chrome** extension plugins.

Given the video at: [http://oldtown.glendon.yorku.ca/~teaching/2021/videos/imagine\\_2020.mp4](http://oldtown.glendon.yorku.ca/~teaching/2021/videos/imagine_2020.mp4)

that plays “Imagine” by Lennon at tempo.

- Create a new video, named slow.mp4, which plays at 90% tempo of the video above. Here is a screen capture of [the output video format](#) suitable for streaming.
- Display your slow video ([format mp4](#)) at:  
**<http://oldtown.glendon.yorku.ca/~lastname/video/lennon/slow90.mp4>**
- Display also your slower music as a web page at:  
**<http://oldtown.glendon.yorku.ca/~lastname/video/lennon/imagine.html>**

### Question 2 Code to embed an mp4 video at your own web site at York:

```
<video playsinline autoplay muted loop >  
  <source src="http://oldtown.glendon.yorku.ca/~teaching/2022/final/media/video1.mp4"  
  type="video/mp4">  
</video>
```

We wish to slow down the piano performance at 90% tempo by computer algorithms.

