Sensory primary cortices simply receive action potentials and then create a perception (based on what brain area it is) for person to experience. If a sensory neuron for touch located in the elbow was somehow rewired to a person's primary olfactory cortex, then every time the person's elbow was touched, they would perceive some smell.

With that in mind...

John's cochlea and auditory nerves were destroyed in a freak accident, so he cannot sense auditory stimuli. His primary gustatory cortex was also destroyed in this freak accident, so he is unable to perceive gustatory stimuli. Physicians think they can rewire John's gustatory neurons to his primary auditory cortex (both of which are still intact). They have asked you to brainstorm a way for John to be able to detect gustatory stimuli (tastes) using the perceptions of his auditory cortex (e.g. pitch, loudness, location in space) in a meaningful way. Describe how this could be done.

You may work together in a group of no more than two people if you would like (i.e. only two names per homework handed in).

Due on Monday (4/19)