A dynamic microphone, the most commonly used type of microphone, is a small and very simple-looking device which, through a series of steps, processes what we can see as input in the form of sound waves. At a superficial glance, a microphone consists of a basket head or grill on top of a capsule with an on-off switch and an XLR output at the bottom end. The output is used to connect the microphone to a stereo amplifier through an XLR cable. The interior structure, however, is more complex. It is made up of small components with different roles in the process of converting a sound wave into actual electricity. It all starts at the top of the microphone. After sound waves are produced by a speaker and filtered through the grill, the first thing they touch is the diaphragm. This is, the top interior component of the microphone. Sound waves cause vibrations in the diaphragm which conducts the movement to the attached coil. The coil, usually made of copper, goes around a magnet without touching it. As the coil moves up and down due to the vibrations, the magnetic field that surrounds it creates an electrical signal. At this point, the sound waves have taken the form of electricity. Yet, this is not enough to produce the good sounding result we want. So, the signal flows down to the step-up transformer, whose job is to increase its low voltage, previously produced by the coil. After this is done, the signal is sent through the XRL cable down to the stereo where it is amplified and heard the way we wanted.

This might sound like a pretty straightforward processing, but of course there are other minor details that play important roles as well. Such as the different cavities, air chambers, and acoustical resistances placed in specific spots along the microphone´s anatomy for a reason, usually to adjust frequency responses to make them fit for a certain processing stage.

According to this course, a computer is defined as a device that accepts data or input and processes it in some way to automatically produce a response. If we think of the sound waves that the microphone receives as the input, the series of steps I have already described as the computational process, and the final amplified sound as the output, then it is fair to consider a dynamic microphone a computer.