Digital images are all around. Objects which are part of our everyday lives such as computers, televisions, and smartphones utilize important mathematics in order to display a desired digital image. Yet making pretty pictures is not the only use of mathematics in the study of digital images. Digital topology studies topological question, both pure and applied, in the realm of digital images. In this talk we will introduce digital topology and the classical notion of digital homotopy. After investigating digital homotopy, we will discuss some of the drawbacks of this viewpoint and how a new notion, based on the idea of subdivision, of digital homotopy addresses those drawbacks. We end with a discussion with ways in which the new digital homotopy can address questions in robot motion planning. This is joint work with Greg Lupton and John Oprea.