Mobile devices with high computational power and the ever-increasing demand for high data rates and mobility, which many mobile network services require, have enabled the search for fifth generation (5G) mobile networks, the idea of which first began in 2016 and was expected Deployed after 2020 in order to support services and applications with more than a thousand times the network traffic of today. The researchers succeeded in this, as it appeared and became operational for the first time in the first quarter of 2020 in the United States of America. On the other hand, large and complex location-related datasets are beyond the capacity of spatial computing technologies. In this direction, mobile cloud computing (MCC) technology is introduced as a combination of cloud computing and mobile computing, enabling end-users to access cloud-enabled services through mobile devices (such as smartphones, tablets, laptops, or wearable devices). devices). Mobile applications exploit cloud technologies for data processing, storage, and other intensive operations, as they are executed on devices' external resource providers. This educational article is a comprehensive review of the current state-of-the-art and state-of-the-art advances in mobile cloud computing under the 5G era, helping early-stage researchers get an overview of current solutions, technologies, and applications and investigate open research issues and future challenges in this field.