A nonlinear kinetic equation for nonrelativistic quantum plasma with electromagnetic interaction of particles is obtained in the Hartree’s mean-field approximation, and is cast in a convenient form of the Vlasov-Boltzmann-type equation with an additional, essentially quantum term containing the effects of quantum interference of particle wave functions. We discuss how this new form of the quantum kinetic equation allows for a relatively straightforward modification of the existing classical electromagnetic Vlasov codes to incorporate the effects of quantum statistics and quantum interference, without changing the bulk of the codes. Such modification of the classical Vlasov codes offers a fast-track path towards kinetic simulations of linear and nonlinear electromagnetic phenomena in quantum plasmas. Numerical studies involving such quantum-modified Vlasov codes would provide a useful basis for theoretical analyses of quantum plasmas, especially for complex problems involving nonlinear plasma-wave interactions, as quantum and classical effects in these codes can be easily separated.