Quantum computers have become a reality in the last few years. However, they are still quite small and noisy which hampers their potential applications. An alternative to this limitation is to use them in combination with classic computers forming hybrid systems. This proposal has given rise to different algorithms such as the Variational Quantum Eigensolver (VQE) and the Quantum Approximate Optimization Algorithm (QAOA). The work proposed consists in reviewing these methods and apply them to an optimization problem.