

**Problem 1:**

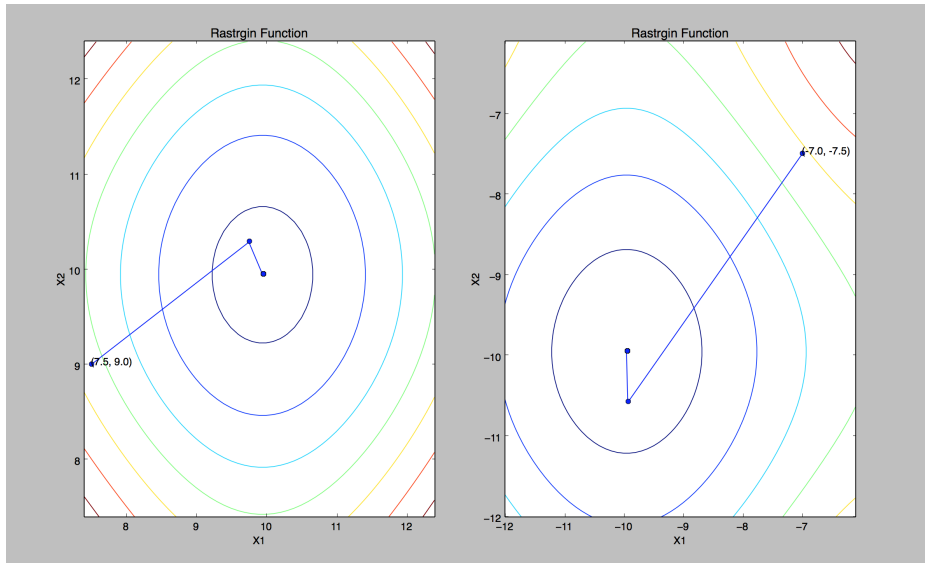


Figure 1: Steepest descent method.

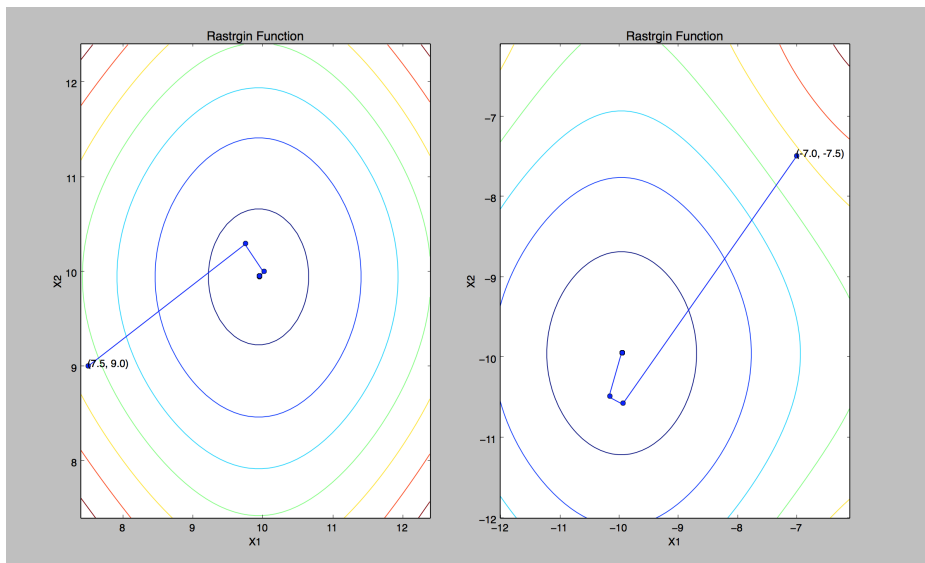


Figure 2: Conjugate gradient method.

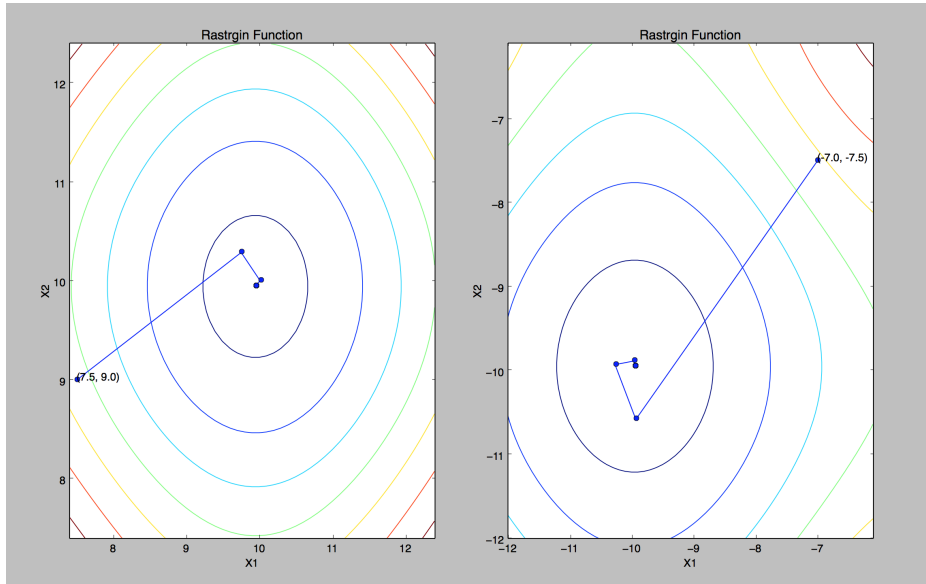


Figure 3: Rank one correction

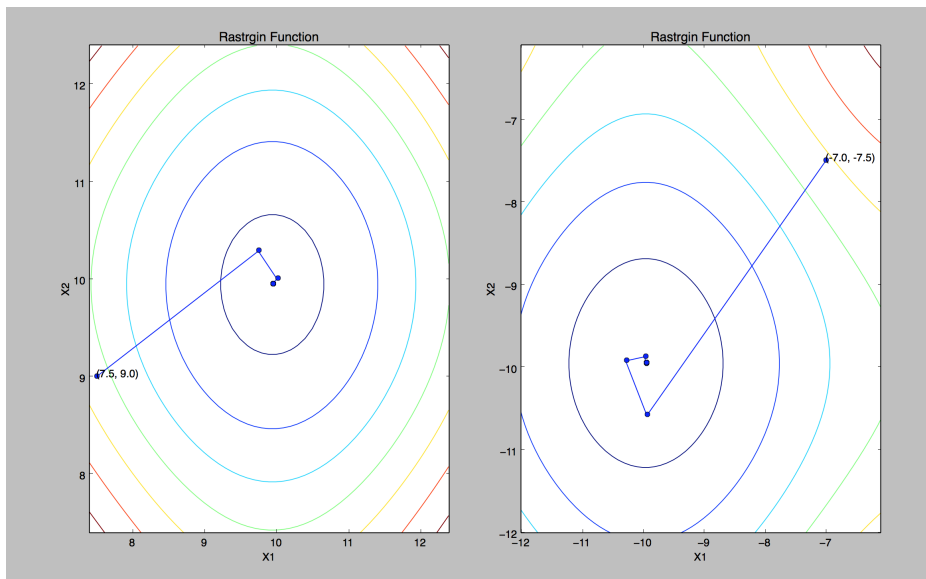


Figure 4: DFP method.

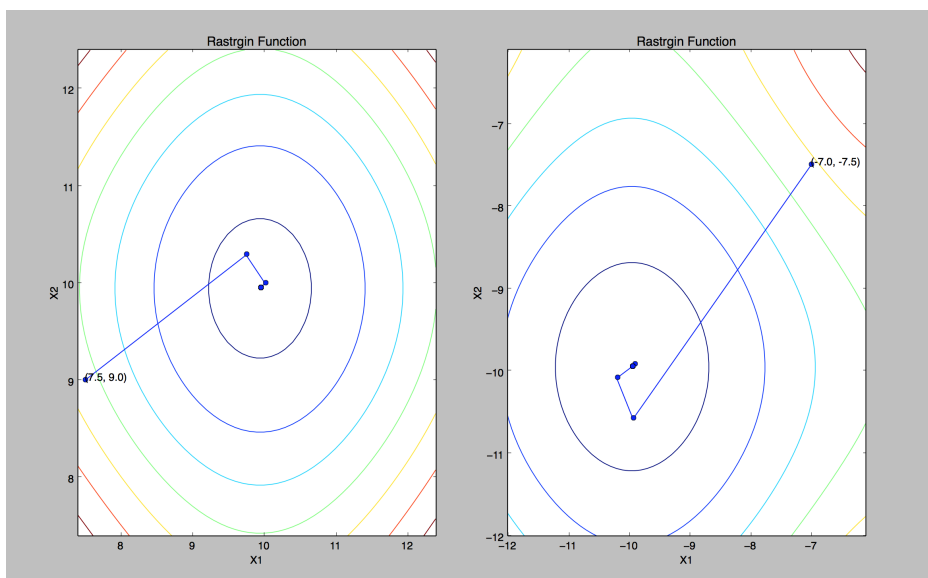


Figure 5: BFGS method.