To carry out a diagnosis, or detect an abrupt change or fault in dynamic behavior of a studied or supervised system (signal, system or model), online or off-line (according to the treated case), it is imperative to develop an installation strategy of a diagnosis tool. In this paper, various techniques of fault detection are presented. The role of hypothesis test as tool for fault presence detection or not detection and the role of the confidence interval in parameter estimation are shown. Then, the principal various phases composing fault detection are proposed and developed.