Software Testing is a must in Software Engineering and Development. However, manual testing is inaccurate, wasting human resources, and most importantly ineffective – defects keep coming back. Automated Testing is the solution. Automated testing is the testing process done be codes, called test cases. To understand why we use Test Automation, we should look at the advantages and drawbacks of test automation over manual testing.

The first advantage of Test Automation is efficient in term of time, effort and human resources. Suppose you have a thousand test cases each with 50 or 100 characters to input, it is obvious that manual approach to testing is not feasible. Test automation can ease foregoing process dramatically. Moreover, human is more error prone, especially with repeated task like inputting 100 characters for a thousand times. Test automation can repeat the input from times to times without our interference. Test automation is also more accurate, matching the actual results with defined values in a matter of seconds. However, automated testing has its own drawbacks.

The most obvious disadvantage is increased in development time, especially initial effort for new features. Not only it is required to write code for the application, but also required to write test cases. This in turn create a new challenge: higher team member skills requirements. It is obvious that to foresee scenarios and write good test cases require more skill than manual testing counterparts. The disadvantages shall answer for the question when we should do automation testing: we only do automated testing for complex and scalable system; we only do automated testing when the skills of team members are sufficient; and we do automated testing when we can balance the delivery delay and delivery of software free or with the least of defects.