Test Automation

There are two general approaches to test automation:

- **Code-driven testing. The public (usually) interfaces to classes, modules or libraries are tested with a variety of input arguments to validate that the results that are returned are correct.**
- **Graphical user interface testing. A testing framework generates user interface events such as keystrokes and mouse clicks, and observes the changes that result in the user interface, to validate that the observable behavior of the program is correct.**

Test automation tools can be expensive, and are usually employed in combination with manual testing. Test automation can be made cost-effective in the long term, especially when used repeatedly in regression testing.