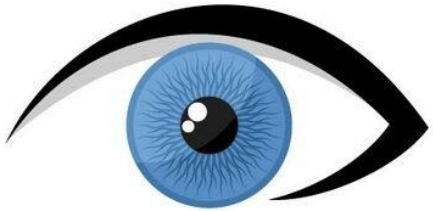
DAY 7

TESTING AND DEBUGGING

Overview



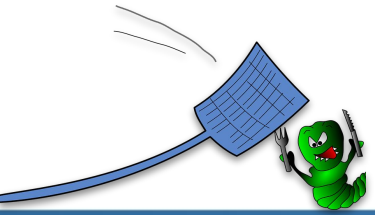
- Errors and its types
- Debugging
- Software Testing
- Levels of Software Testing
- Unit Testing
- Why Unit Testing
- Test-driven Development
- Testing Framework
- Testing vs Debugging

Errors and its types

- ➔ Faults that occur in the program, which makes the behavior of the program abnormal
- ➔ Also Known as bugs
- ➔ Common Errors:
    1. Syntax errors
    2. Runtime errors
    3. Logic errors

Debugging

- ➔ Process of detecting and removing of existing and potential errors
- ➔ Methods
    1. Rubber Duck Method
    2. Using debugger

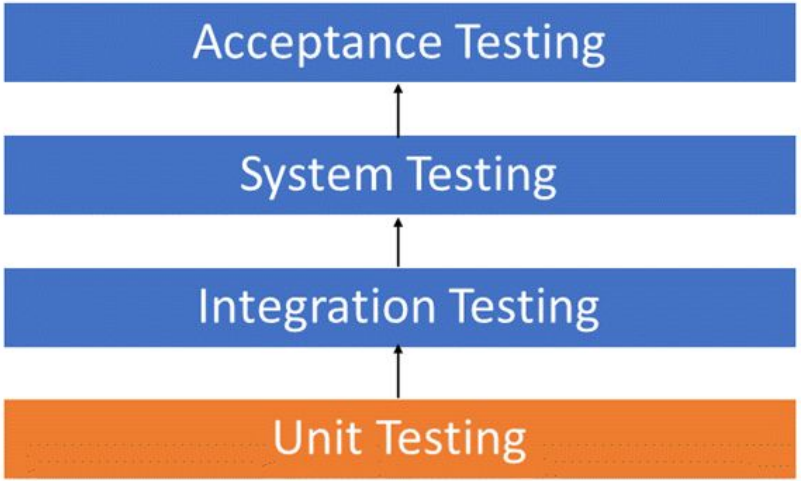


Software Testing

- ➔ Check whether application meets requirements
- ➔ Check for errors

Image courtesy: guru99

Levels of Software Testing



Unit Testing

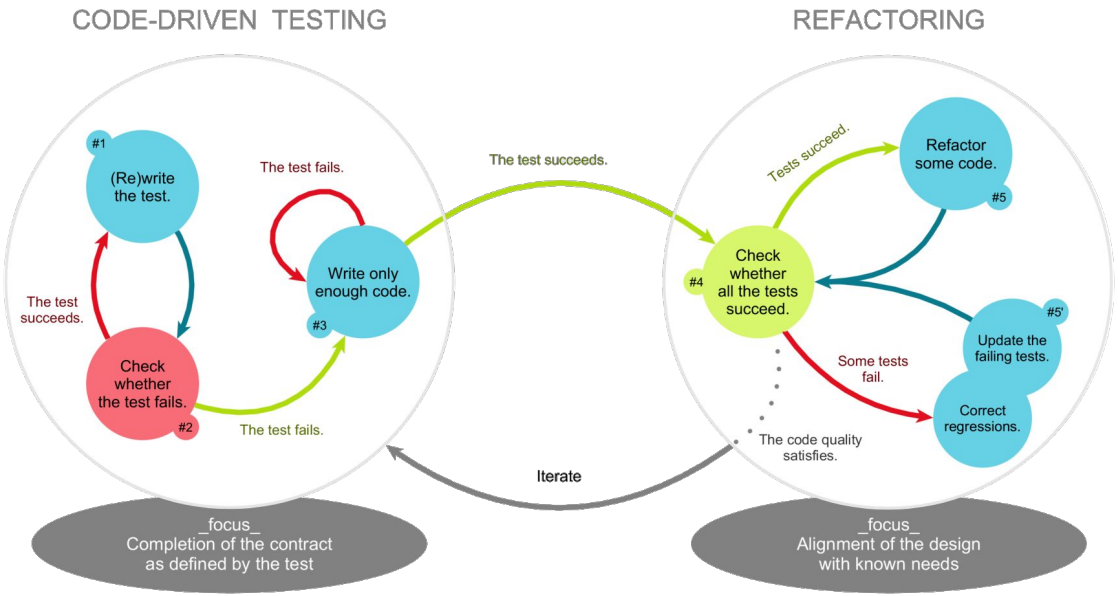
- ➔ Ensure individual components of program are correct in terms of functionality and requirements
- ➔ Performed by Developers

Why Unit Testing?

- ➔ Ensuring every system components benefits to achieving a quality product
- ➔ Simplify the debugging process
- ➔ Allowing for Code refactoring and design improvements
- ➔ Validating correcting bugs in early in the SDLC
- ➔ Reducing bug fixing costs

Fig courtesy: Xavier Pigeon

Test-driven Development



Testing Framework

nose

Testing vs Debugging

Testing	Debugging
Process to find bugs and errors and display them	Deductive process to correct the bugs found during testing.
Carried out by Developers as well as Testers	Carried out by Developers
Automatic or Manual	Manual


Bro-coding time.