

# Penetration Testing

## **Testing the functionalities**

- ✓ Unit test, Integration test, Performance test and so on ...

## **Testing the security**

- ✓ Penetration tests
- ➔ Try to make the software fail by pushing the limits of a “normal” usage i.e test what the program is not supposed to do

# Using formal methods to verify a program

**Static analysis** - analyzing the code to detect security flaws

- Control flow - analyzing the sequence of instructions
  - Data flow - analyzing how the data are accessed
  - Data structure - analyzing how data are organized
- ➔ Abstract interpretation [Cousot]
- ✓ Verification of critical embedded software in Airbus aircrafts