



# Software Quality Assurance & Testing

TOPIC2: LECTURE 1: THE FUNDAMENTALS OF TESTING

# Topics:

- ▶ **Causes of Software Defects**
- ▶ **Test Principals**
- ▶ **Fundamental Test process**
- ▶ **The psychology of testing**
- ▶ **Code of Ethics**

# Why testing is necessary?

- ▶ Purpose of testing is to find defects or faults in system or software.
- ▶ Finding faults destroys confidence but the purpose of testing is not to destroy confidence but the purpose of testing is to build the confidence. The best way to build confidence is to try to destroy it.

# Error – Defect - Failure

- ▶ **Error:** Error is a human action that produces an incorrect result.
- ▶ **Defect:** Defect is a flaw in software that can cause the software to fail to perform its required functions. Defect is also known as a fault or bug. If defect gets executed, a defect may cause a failure.
- ▶ **Failure:** Failure is deviation of the software from its expected delivery or service.

Failure is an event; fault is a state of the software, caused by an error



# Causes of Software Defects

- ▶ Software's are created by humans
- ▶ Faulty requirements definition
- ▶ Time pressure
- ▶ Complex code
- ▶ Many system interaction
- ▶ Coding errors
- ▶ Complexity of infrastructure
- ▶ Changing technologies
- ▶ Non-compliance with standards