

Definition of Terms

- ☐ **Correctness**
 - Correctness has a binary character, i.e., an item is either correct or incorrect
 - A fault-free realization is correct
 - An artifact is correct if it is consistent to its specification
 - If no specification exists for an artifact, correctness is not defined
- ☐ **Completeness**
 - A system is functional complete, if all functions required in the specification are implemented. This concerns the treatment of normal cases as well as the interception of failure situations

Definition of Terms

- **Reliability**
 - Part of the quality with regard to the behavior of an entity during or after given time periods with given working conditions (DIN 40041)
 - Collective term for the description of the power concerning availability and its influencing factors: power concerning functionality, maintainability and maintainability support (DIN EN ISO 8402)
 - Property of an entity regarding its qualification to fulfill the reliability requirements during or after given time periods with given application requirements (DIN ISO 9000)
 - Measure for the ability of an item to remain functional, expressed by the probability that the required function is executed failure-free under given working conditions during a given time period (based on Birolini, ETH)
 - **Availability**
 - Measure for the ability of an item to be functional at a given time



Definition of Terms

- ☐ **Failure, Fault, Error**
 - **Failure:** Inconsistent behavior w.r.t. specified behavior while running a system (happens dynamically during the execution) => Each failure has a time-stamp
 - **Fault, defect:** Statically existent cause of a failure, i.e. a „bug“ (usually the consequence of an error made by the programmer)
 - **Error:** Basic cause for the fault (e.g., misunderstanding of a particular statement of the programming language)

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Definition of Terms

- ☐ **Accident** is an undesired event that causes death or injury of persons or harm to goods or to the environment
- ☐ **Hazard** is a state of a system and its environment where the occurrence of an accident depends only on influences that are not controllable by the system
- ☐ **Risk** is the combination of hazard probability and severity of the resulting accident
- ☐ **Acceptable Risk** is a level of risk that authorities or other bodies have defined as acceptable according to acceptance criteria

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