Quick Reference Guide

Essential concepts, methodologies, and best practices for rapid understanding and application.

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Core Concepts

- **System:** Organized collection of interconnected elements
- **Systems Analysis:** Understanding problem domain
- **Systems Design:** Creating technical blueprint
- **SDLC:** Structured development framework

System Types

- **TPS:** Transaction Processing Systems
- **MIS:** Management Information Systems
- **DSS:** Decision Support Systems
- **ERP:** Enterprise Resource Planning

SDLC Phases

1. Planning
2. Analysis
3. Design
4. Development
5. Implementation
6. Maintenance

Best Practices

- Analyze before designing
- Design before developing
- Test throughout development
- Plan for maintenance
- Engage stakeholders
- Document decisions

Key Statistics

- 40% higher project success with SDLC
- 70% of costs in maintenance phase

Certifications

- **CISA:** Information Systems Auditor
- **CISSP:** Security Professional
- **PMP:** Project Management

- 65K TPS transactions/second
- 60% fewer defects with proper methods

- ITIL: Service Management

Methodology Flow

ANALYSIS → DESIGN

What → How: Transform requirements into specifications through systematic investigation and technical blueprint creation.

DESIGN → DEVELOPMENT

Blueprint → Implementation: Turn specifications into working system through coding, testing, and integration.

REQUIREMENTS → TESTING

Validation throughout lifecycle ensures quality and alignment with stakeholder needs through continuous verification.

DEVELOPMENT → MAINTENANCE

Plan for ongoing support, updates, and improvements to ensure system longevity and continued business value.

Professional Practice Principles

Successful systems professionals follow these core principles: Analyze before designing to understand the problem domain thoroughly. Design before developing to create a comprehensive technical blueprint. Test throughout development to ensure quality at every stage. Plan for maintenance from the start to ensure long-term system viability. Consider security in all phases to protect against threats. Engage stakeholders continuously to ensure alignment with business needs.

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