FACULTY OF ENGINEERING & TECHNOLOGY

BCS-503: Object Oriented Techniques

Lecture-01

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In this PPT, you will learn to:

❖**Software Development Life Cycle**

❖**SDLC Phases**

Software Development Life Cycle

- SDLC is a disciplined and systematic approach that divides the software development process into various phases, such as requirements, design, and coding.

- The phase-wise software development process helps you track schedule, cost, and quality of the software projects.

There are six phases of SDLC:

1. Feasibility analysis

2. Requirement analysis and specification

3. Design

4. Coding

5. Testing

6. Maintenance

What is Feasibility Analysis

- Includes analysis of project requirements in terms of input data and desired output.

- Processing required to transform input into output.

- Cost benefit analysis

- Schedule of the project

What is Requirement Analysis And Specification

- Includes gathering, analyzing, validating and specifying requirements.

- At the end of this phase, the Software Requirements Specification (SRS) document is prepared.

- SRS is a formal document that act as input to the design phase.

- SRS includes functional, performance, software, hardware and network requirements of the project.
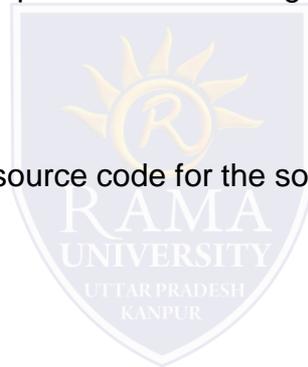
What is Design

- Includes translation of the requirements specified in the SRS into a logical structure.

- That can be implemented in a programming language.

- The output of the design phase is a design document that acts as an input for all the subsequent SDLC phases

What is Coding

- Includes implementation of the design specified in the design document into executable programming language code.

- The output of the coding phase is the source code for the software that acts as input to the testing and maintenance phase
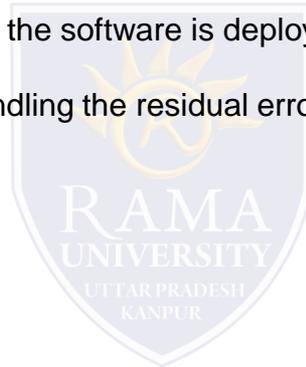
What is Testing

- Includes detection of errors in the software.

- The testing process starts with a test plan that recognizes test-related activities, such as test case generation, testing criteria and resource allocation for testing.

- The code is tested and mapped against the design document created in the design phase.

- The output of the testing phase is a test report containing errors that occurred while testing the application
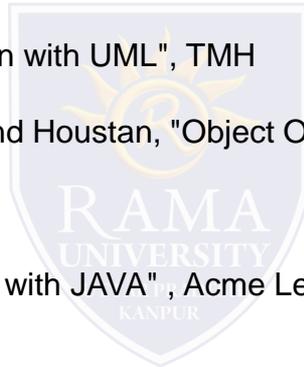
MAINTENANCE

What is Maintenance

- Includes implementation of changes that the software might undergo over a period of time.

- Implementation of new requirements after the software is deployed at the customer location

- The maintenance phase also includes handling the residual errors that may exist in the software even after the testing phase

REFERENCES

1. James Rumbaughet. al, "Object Oriented Modeling and Design", PHI

2. Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education

3. Naughton, Schildt, "The Complete Reference JAVA2", TMH

4. Mark Priestley "Practical Object-Oriented Design with UML", TMH

5. Booch, Maksimchuk, Engle, Young, Conallen and Houstan, "Object Oriented Analysis and Design with Applications",

Pearson Education

6. Pandey, Tiwari, " Object Oriented Programming with JAVA" , Acme Learning

7. https://www.javatpoint.com/java-tutorial

8. https://www.tutorialspoint.com/java/index.htm

9. https://www.tutorialspoint.com/object_oriented_analysis_design/index.htm

10. https://www.slideshare.net/niitstudentcare/

Multiple Choice Question:

Q1. SDLC stands for

    a) Software Development Life Cycle

    b) System Development Life cycle

    c) Software Design Life Cycle

    d) System Design Life Cycle

Multiple Choice Question:

Q2. Which of the following is not a named in System development life cycle?

    a) Assessment

    b) Maintenance

    c) Development

    d) Testing

Multiple Choice Question:

Q3. Which of the following is the most important phase of SDLC?

    a) Requirements analysis

    b) Design

    c) Testing

    d) Coding

Multiple Choice Question:

Q4. Which step of SDLC perform cost/benefit analysis?

a) Feasibility Analysis

b) Analysis

c) Design

d) None of these above

Multiple Choice Question:

Q5. Which one of the following is not stage of SDLC?

    a) System Analysis

    b) Problem Identification

    c) System Design

    d) Feasibility Analysis

Multiple Choice Question:

Q6. Which phase of SDLC includes translation of the requirements specified in the SRS into a logical structure that can be implemented in a programming language?

    a) Feasibility

    b) Design

    c) Coding

    d) Maintenance

In this PPT, you learned that:

➢ SDLC is a disciplined and systematic approach towards software development.

➢ SDLC divides the software development process into six phases:

    1) Feasibility analysis
    2) Requirement analysis and specification
    3) Design
    4) Coding
    5) Testing
    6) Maintenance