Summary & Highlights

Congratulations! You have completed this module. At this point, you know:

- Software engineering is the application of scientific principles to the design and creation of software.
- Responsibilities of a software engineer include designing, building, and maintaining software systems.
- Using the SDLC can improve efficiency and reduce risks by:
  - letting team members know what they should be working on and when
  - facilitating communication between the customer, other stakeholders, and the development team
  - letting stakeholders know where they fit into that process and
  - letting cross-domain teams know when they have completed their tasks so development can move to the next phase.
- Common software engineering processes are requirements gathering, design, coding, testing, releasing, and documenting.
- The requirement gathering process entails identifying stakeholders, establishing goals and objectives, eliciting requirements from the stakeholders, documenting the requirements, analyzing, prioritizing, and confirming the requirements.
- An SRS is a document that captures the functionalities that the software should perform and also establishes benchmarks or service levels for its performance.
- A URS is a subset of the SRS that details user specification requirements.
- The SysRS contains the same information as an SRS, but can also additionally include system capabilities, interfaces, and user characteristics, policy requirements, regulation requirements, personnel requirements, performance requirements, security requirements, and system acceptance criteria.
- Waterfall, V-shape model, and agile are all different methodologies for implementing the software development life cycle.