CS 123: Introduction to Software Engineering
Tutorial 1

10th May, 2021

1. What is program?
2. What is software?
3. What is the different between software and programme?
4. What is software engineering?
5. With reference to IEEE, define what is software engineering?
6. What are the importance of following software engineering techniques when developing software?
7. With example define custom software.
8. With example define generic software.
9. What is the difference between custom software product and generic software product?
10. What is the name of software developed for a particular customer?
11. What is the name of software developed for a general market?
12. Who own the decisions on software changes and the specification of what the custom software product should do?
13. Who own the decisions on software changes and the specification of what the generic software product should do?
14. A skilled software developer knows about a wide variety of approaches, methods, tools but the craft of software engineering is to select appropriate methods for each project and apply them effectively. Determine three criteria used in selection of best software engineering methods and tools.
15. Discuss two factors affecting quality of a developed software system.
16. Discuss four attributes of good software.
17. Discuss four dimensions of software dependability.
18. Discuss four ethical responsibility that should be observed by any software engineer.
19. Match application software in list A with their description in list B

    List A: Application software

    i. Batch processing systems
    ii. Entertainment systems
    iii. Systems for modelling and simulation
    iv. Data collection systems
    v. Systems of systems
    vi. Stand-alone applications
    vii. Interactive transaction-based applications
    viii. Embedded control systems

    List B: Description

A. Embedded control systems: These are software control systems that control and manage hardware devices. Numerically, there are probably more embedded systems than any other type of system.
B. Batch processing systems: These are business systems that are designed to process data in large batches. They process large numbers of individual inputs to create corresponding outputs.
C. Entertainment systems: These are systems that are primarily for personal use and which are intended to entertain the user.
D. Systems for modelling and simulation: These are systems that are developed by scientists and engineers to model physical processes or situations, which include many, separate, interacting objects.
E. Stand-alone applications: These are application systems that run on a local computer, such as a PC. They include all necessary functionality and do not need to be connected to a network.
F. Interactive transaction-based applications: Applications that execute on a remote computer and are accessed by users from their own PCs or terminals. These include web applications such as e-commerce applications.
G. Data collection systems: These are systems that collect data from their environment using a set of sensors and send that data to other systems for processing.
H. Systems of systems: These are systems that are composed of a number of other software systems.