ASSIGNMENT

MODULE-1

SE- Overview of IT Industry

1. What is software? What is software engineering?

* Software is a set of instruction, data or programs used to operate computers and execute specific tasks. It is the opposite of hardware, which describe the physical aspects of a computer. Software is a generic term used to refer to applications, scripts and programs that run on a device.

1. Explain types of software

* The most common types of software
* Application software –

The most common type of software, application software is a computer software package that performs a specific function for a user, or in some cases, for another application. An application can be self-contained, or it can be a group of programs that run the application for the user. Example of *modern applications* include office suites, graphics software, databases, and database management programs, web browsers, word processors, software development tools, image editors and communication platforms.

* System software –

These software programs are designed to run a computer’s application programs and hardware. System software coordinates the activities and functions of the hardware and software.

* Driver software-

Also known as device drivers, this software is often considered a type of system software. Device drivers control the devices and peripheral connected to a computer, enabling them to perform their specific tasks.

* Middleware –

The term *middleware* describes software that mediates between application and system software or between two different kinds of application software.

For example, middleware enables Microsoft Windows to talk to Excel and Word.

* Programming software-

Computer programmers use programming software to write code. Programming software and programming tools enable developers to develop, write, test and debug other software programs.

1. What is SDLC? Explain each phase of SDLC?

* Software Development Life Cycle (SDLC)

Software development life cycle (SDLC) is a structured process that is used to design, develop, and test good-quality software. SDLC is a methodology that defines the entire procedure of software development step-by-step.

Phase-1: Planning and Requirement Analysis

* Planning is a crucial step in everything, just as in software development. In this

Same stage, requirement analysis is also performed by the developers of the

organization. This is attained from customer inputs, and sales department/

market surveys.

Phase-2: Defining requirements

* In this stage, all the requirements for the target software are specified. These

Requirements are get approval from customers, market analysts, and stakeholders.

Phase-3: Designing Architecture

* SRS is a reference for software designers to come up with the best architecture for

the software. Hence, with the requirements defined in SRS, multiple designs for the

product architecture are present in the design document specification.

Phase-4: Developing Product

At this stage, the fundamental development of the product starts. For this Developers use a specific programing code as per the design in DDS. Hence, It is important for the coders to follow the protocols set by the association. Conventional programing tools like compilers, interpreters, debuggers, etc. are also put into use at this stage. Some popular languages like C/C++, python, Java, etc. are put into use as per the software regulation.

Phase-5: Product Testing and Integration

After the development of the product, testing of the software is necessary to ensure its smooth execution. Although, minimal testing is conducted at every stage of SDLC. Therefore, at this stage, and retested. This ensures that the product confronts the quality requirements of SRS.

Phase-6: Deployment and Maintenance of Products

After detailed testing, the conclusive product is released in phases as per the organization’s strategy. Then it is tested in a real industrial environment. It is important to ensure its smooth performance. If it performs well, the organization sends out the product as a whole.

1. What is DFD (Data Flow Diagram)? Create a DFD diagram on flipkart

* DFD is the abbreviation for Data Flow Diagram. The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present.

1. What is flowchart? Create a flowchart to make addition of two numbers.

* Flowchart is a graphical representation of an algorithm. Programmers often use it as program-planning tool to solve a problem.it makes use of symbols which are connected among them to indicate the flow of information and processing. The process of drawing a flowchart for an algorithm is known as “flowcharting”.

1. What is Use case Diagram? Create a use-case on bill payment on paytm.

* The Use case diagram is a UML Diagram where each use-case specifies the behavior expected from software from the perspective of end user and relation as well as provides brief overview for different components concerning interaction between use case, actor and system. The use case diagram is used to prepare, present and understand functional requirements of the system.

Use case Diagram specifies exact context of the software being developed. It does not specifies order in which actions must be performed. Each use case represents function of system which is either process-automated or manual.