Software Engineering Assignment

**MODULE: 1 Software development life cycle (SDLC)**

**1).** what is software?

Software is a set of computer program and associated documentation and data.

What is software engineering?

Software engineering is an engineering based access to software development. Software engineering is the process of designing, developing, testing, and maintaining software.

**2).** Explain types of software.

There are five types of software’s

**1). Application Software**

**2). System software**

**3). Drive Software**

**4). Middleware**

**5). Programming software**

1). **Application Software:**

This application software is computer software use to for specific function

And other application. An application can be self-contained, or it can be a

Group of program that run the application for use.

Example: graphics software, databases and database management programs,

Web browsers, word processors, Microsoft word, power point and excel.

2)**. System software:**

The 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.

Example: windows, ubuntu, iPhone Operating System (IOS) and firmware.

3)**. Drive Software:**

This software is often considered a type of system software. Device drivers

Control the devices and peripherals connected to a computer, enabling them

to perform their specific tasks. Every device that is connected to a computer

needs at least one device driver to function.

Example: Pen drive, Audio, Video and keyboard.

4)**. Middleware:**

The term middleware describes software that mediates between application

And system software or between two different kinds of application software.

For an example, middleware enables Microsoft Windows to talk to Excel and

Word.

Example: message-oriented middleware, web middleware, and transaction-

Processing monitors.

5). **Programming software:**

The Computer programmers use programming software to write code.

Programming software and programming tools enable developers to develop,

Write, test and debug other software programs.

Example: Visual Studio, Amazon Web Services (AWS) Cloud9 and web services.

**3).** What is SDLC?

The Software Development Life Cycle (SDLC) refers to a methodology with clearly defined processes for creating high-quality software.

Explain each phase of SDLC

The Software Development Life Cycle (SDLC) refers to a methodology with clearly defined processes for creating high-quality software. in detail, the SDLC methodology focuses on the following phases of software development.

1. **Requirement**
2. **Analysis**
3. **Designing**
4. **Implementation**
5. **Testing**
6. **Maintenance**

There are six types of SDLC include the following phases:

1). **Requirement:**

This phase is involves gathering information about the software

Requirements from stakeholders, such as customers, end-users, and

Business analysts.

For example: customer wants to have an application which involves money

Transactions. In this case, the requirement has to be clear like what kind of

Transactions will be done, how it will be done, in which currency it will be

Done.

2). **Analysis:**

During this software development lifecycle phase, the specialists

Meticulously collect precise requirements from the customer to present

A solution fine-tuned o their needs. Any unclarities must be elucidate

in this stage only.

3). **Design:**

The software design is created, which includes the overall architecture of

the software, data structures, and interfaces.

4). **Implementation:**

The design is then implemented in code, usually in several iterations, and

This phase is also called as Development.

This is the longest phase in SDLC model:

This phase consists of Front end + Middleware + Back-end.

**In front-end:**Development of coding is done even SEO settings are

Done.

**In Middleware:** They connect both the front end and back end.

**In the back-end:** A database is created.

5). **Testing:**

After the code is generated, it is tested against the requirements to make

Sure that the products are solving the needs addressed and gathered

During the requirements stage. During this stage, unit testing, integration

Testing, system testing, acceptance testing are done.

6). **Maintenance:**

Once when the client starts using the developed systems, then the real

Issues come up and requirements to be solved from time to time.

This procedure where the care is taken for the developed product is known

as maintenance.

**4).** What is DFD?

DFD is a data flow diagram a way of representing a flow of data through a process or a system.

Create a DFD diagram on Flipkart.

User

Search Products

Registration

Login

Account

Add to cart

Buy Items

Make Order

Payment

**5)**. what is Flow chart?

A flowchart is a type of diagram that represents a workflow or method. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task.

Create a flowchart to make addition of two numbers.

START

Declare variable number 1, number 2 and sum

Print sum

Add the number 1 and number 2 after assign value to sum

Sum =number 1+number 2

Read the number 1 and number 2

Stop

**6).** what is Use case Diagram?

A use case diagram is a graphical depiction of a user's possible interactions with a system. Or model the behavior of a system and help to capture the requirements of the system.

Create a use-case on bill payment on Paytm.

**PAYTEM OF PAYMENT SYSTEM DIAGRAM**

SUPPLIER

MANAGER

INVENTORY SYSTEM

CASHIER

CUSTOMER

DEBIT

CASH

CREDIT