SE20F-022
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**SOFTWARE ENGINEERING DEPARTMENT**

**Fall 2020**

**INTRODUCTION TO COMPUTING (SWE-105T)**
**ASSIGNMENT # 03**

Semester: I | Batch: Fall 2020
Due Date : 3rd January | Max Marks:05

Instructions:
- Attempt all questions.

## Q1) Describe LAN, WAN, SAN and PAN?

### LAN:

A local place community (LAN) is a computer community that interconnects computer systems inside a limited area inclusive of a residence, school, laboratory, college campus or office constructing. by using assessment, a wide area community (WAN) no longer only covers a bigger geographic distance, however additionally usually involves leased telecommunication circuits.

### Example:

Ethernet and Wi-Fi are the two maximum common technology in use for local location networks. historical community technology encompasses ARCNET, Token Ring, and AppleTalk.

### WAN:

A WAN is a community that uses diverse hyperlinks personal traces, Multiprotocol Label Switching (MPLS), digital private networks (VPNs), Wi-Fi (mobile), the internet to attach smaller metropolitan and campus networks in diverse places into a unmarried, disbursed community. The web sites they join could be some miles aside or midway around the world. In a company, the functions of a WAN could encompass connecting branch offices or maybe character far flung workers with headquarters or the statistics middle with a view to proportion corporate sources and communications.

### Example:

Mobile board connections such as 3G,4G etc. are the example of WAN.

### PAN:

A non-public vicinity community (PAN) connects electronic devices within a consumer's immediate place. the dimensions of a PAN tiers from some centimeters to a few meters. one of the most common actual-global examples of a PAN is the connection between a Bluetooth earpiece and a cellphone. PANs can also connect laptops, pills, printers, keyboards, and other computerized devices.

## Example:

PAN community connections can either be stressed or Wi-Fi stressed connection methods encompass USB and FireWire, wireless connection methods include Bluetooth (the most commonplace), Wi-Fi, IrDA, and ZigBee.

Q2) What is the difference between Coaxial Cable, Twisted pair cable and Fiber optic cable?

| Co-Axial Cable | Twisted Pair Cable | Optical Fiber Cable |
|---|---|---|
| External magnetic file is less affected | Affected due to external magnetic field | External magnetic field is not affected |
| Co-axial cable has moderately high bandwidth. | Twisted pair cable has low bandwidth. | Optical fiber cable has very high bandwidth |
| They loses power due to conduction | They loses power due to conduction and radiation | They loses power due to absorption, scattering and bending |
| They are fairly easy to installation | They are easy to installation | They are too difficult to install |

Q3) What is Validation process does in DBS?

## Database Validation:

Validation is an automatic test to make sure that the facts entered is sensible and feasible .Validation can't make certain information is absolutely correct .Database management structures allow for a few available validation strategies to be implemented.

## Type:

In case you make a selected field numeric then it won't permit you to input any letters or different non-numeric characters. Be cautious when the use of the numeric statistics type. if you use it for fields like telephone numbers, it won't permit you to input areas, or different humanfriendly sorts of formatting.

## Presence:

That is once in a while called allow blank or obligatory. This sort of validation compels the person to enter data inside the required discipline.

## Format:

This is used for a field that requires an entry in a specific format. Examples include date format, postal codes, and driver's license numbers.

## Restricted Choice:

There are instances that fields in a database have a particular amount of records that may be entered into them. for instance, the amount of days in every week are restrained to Sunday, Monday, Tuesday, etc.

Q4) What are the advantages and disadvantages FPS ( File processing System) and

DBS (Database System)?

## Advantages of FPS:

It is viable to take quicker and automatic again-up of database stored in files of laptop based systems. Pc structures provide functionalities to serve this reason.it is also viable to broaden particular software for this reason. It is possible to store facts compactly. Pc-based systems provide improved facts retrieval techniques to retrieve facts stored in files in smooth and efficient way

## Disadvantages of FPS:

The records present within the database ought to be constant and accurate. To obtain this, the records ought to must fulfill certain constraints. Restoration or backup of lost and corrupt information is nearly not possible in case of record Processing device. Operations executed in the database must be atomic i.e. both the operation takes area as an entire or does not take vicinity in any respect.

## Advantages of DBS:

Reduced information redundancy. Decreased updating mistakes and extended consistency. Extra facts integrity and independence from packages applications

## Disadvantages of DBS:

Database systems are complicated, hard, and time-consuming to design. Enormous hardware and software program start-up charges. Damage to database influences really all programs.

Q5) Describe all SDLC phases with example.

### Requirement Gathering and Analysis:

During this phase, all the relevant information is collected from the customer to develop a product as per their expectation. Any ambiguities must be resolved in this phase only.

### Design:

In this phase, the requirement gathered in the SRS document is used as an input and software architecture that is used for implementing system development is derived.

### Implementation or Coding:

Implementation/Coding starts once the developer gets the Design document. The Software design is translated into source code. All the components of the software are implemented in this phase.

### Testing:

Testing starts once the coding is complete and the modules are released for testing. In this phase, the developed software is tested thoroughly and any defects found are assigned to developers to get them fixed.

### Deployment:

Once the product is tested, it is deployed in the production environment or first UAT (User Acceptance testing) is done depending on the customer expectation.

### Maintenance:

After the deployment of a product on the production environment, maintenance of the product i.e. if any issue comes up and needs to be fixed or any enhancement is to be done is taken care by the developers

Note: Hand-written or typed both are accepted and submission date is 3rd January