Module 1

Q:1. What is software? What is software engineering?

Ans: **Software** : Software is a set of instructions, data or program used to operate computers and execute specific tasks. It is the opposite of hardware, which describes the physical aspects of a computer.

Software is a generic term used to refer to applications, scripts and programs that run on a device.

Software Engineering : Software Engineering is the application of principles used in the field of engineering, which usually deals with physical systems, to the design, development, testing , deployment and management of software systems.

Q:2. Explain types of software

Ans: Five types of software

1. Application Software

2. System Software

3. Driver Software

4. Middleware

5. Programming Software

1. **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 program that run the application for the user. Ex.Web Browsers, web processors, image editor.

2.**System Software** : these software program are designed to run a computers applicatipon programs and hardware , System software coordinates the activities and functions of the hardware and software.

It controls the operations of the computer hardware and provides an environment or platform for all other types of software to work in. Ex. System software.

3.**Driver Software** : also known as device drivers, this software is often considered a type of sysytem 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 functions. Ex. USB Storage device,headphones,Printers.

4.**Middleware :** the term middleware describes software that mediates between application and system software or between two different kinds of application software. Ex. Middleware enable microsoft windows to talk excel and word.

It is also used to remote work request from an application in a computer that has one kind of OS, to an application in a computer with a different OS, it also enable never application to work with legacy ones.

5.**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. Ex. Assemblers, compilers, Debuggers & interpriter.

Q:3. What is SDLC ? Explain each phase of SDLC

Ans: SDLC Full form is software development life cycle.

SDLC : SDLC is a structure that imposed the sofware product that defined the process for Planning, analysis, designing, implementation, testing and Maintanance.

There are **SIX** phases of SDLC

1. Requirement Gathering
2. Analysis
3. Designing
4. Implementation
5. Testing
6. Maintanance

1. **Requirement Gathering** : During this phase, all the relevant information is collected from the customer to develop a product as per their expectation.

2. **Analysis** : system analysis includes understanding of software product limitations, learning system realted problems or changes to be done in existing systems beforehand, identifying and addressing the impact of project on organization and personnel etc. the project team analyzes the scope of the project and plans the schedule and resources accordingly.
3. **Designing** : in this phase, the requirment gathered in the SRS document is used as an input and software architecture that is used for implementing system development is derived.
4. **Implementation** : coding starts once the developer gets the design document. The software desing is translated into source code. All the components of the software are implemented in this page.
5. **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. Retesting, regression testing is done until the point at which the software is as per the customers expectation.
6. **Maintanance** : after the testing of a product on the production environment, maintanance of the product. If any issue comes up and needs to be fixed or any enhancement is to be done is taken care by the developers.

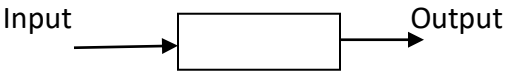
Q:4. What is DFD? Create a DFD diagram on Flipkart

Ans: **DFD** : "Data Flow Diagram" it is also known as "Bubble Chart".

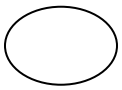
Through which we can represent the flow of data graphically on a information system.

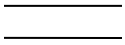
By using DFD we can easily understand the overall functionality of the system because the diagram represents the incoming data flow,outgoing data flow and stores data in a graphical form.

COMPONENTS : 1. External Entity :



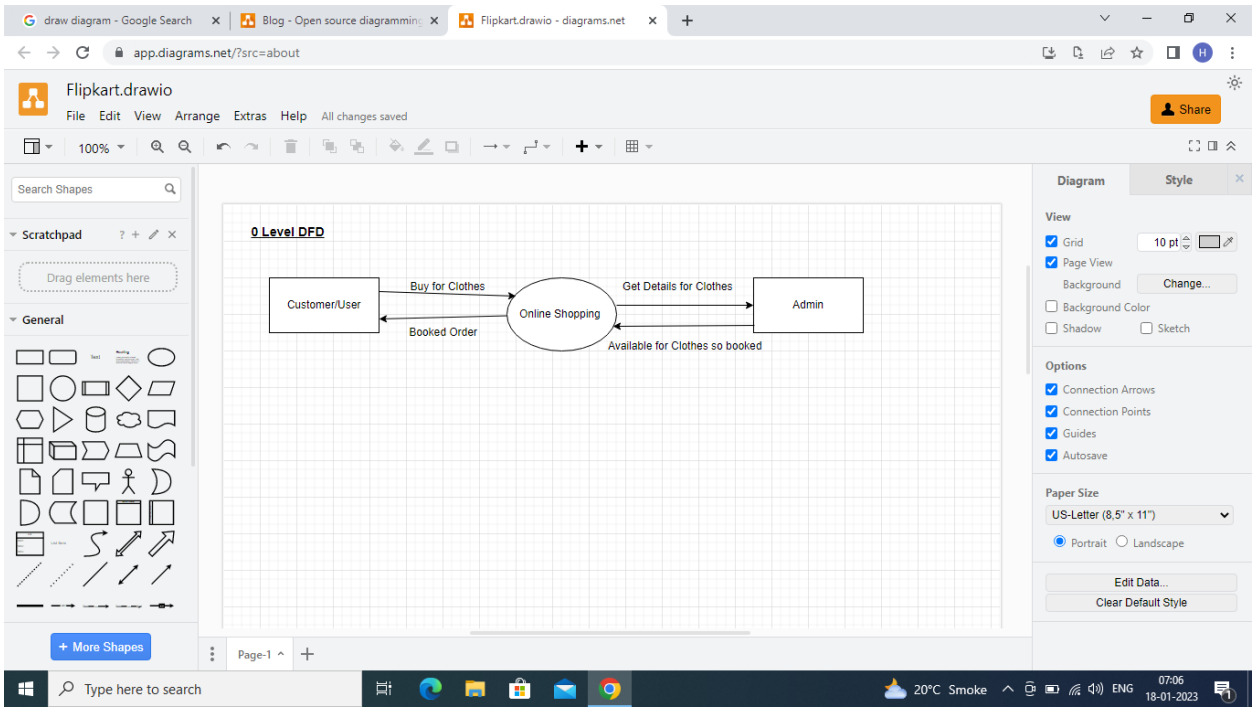
2. Data Flow :

3. Process or Bubble : 

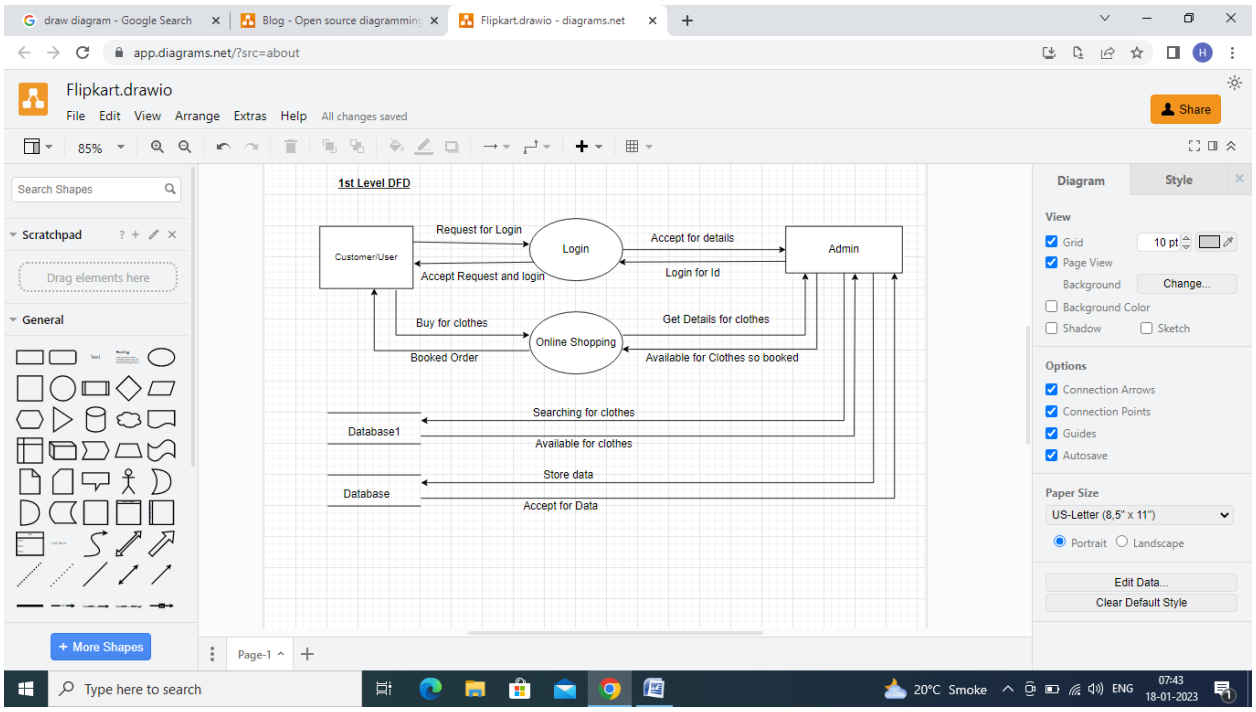
4. Data Store : 

Flipkart Diagram :

0 Level Diagram:



1st Level Diagram:

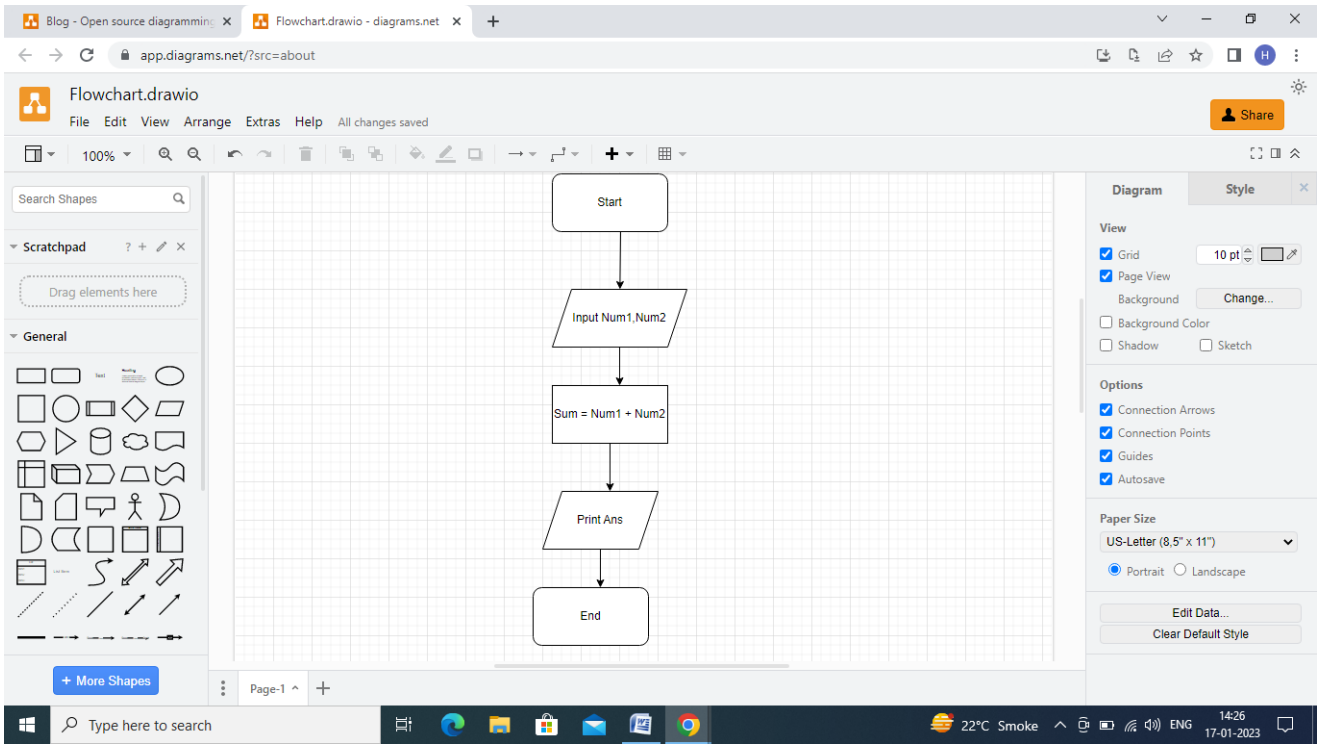


Q:5. What is Flow Chart? Creat a flowchart to make addition of two numbers.

Ans: **Flow Chart** : A flowchart is a diagram that show an overview of a program. Flowchart normally use standrad symbols to represent the different types of instructions.

These symbols are used to construct the flowchart and show the step by step solution to the problem. Flowcharts are sometimes known as flow diagrams.

Flowchart :

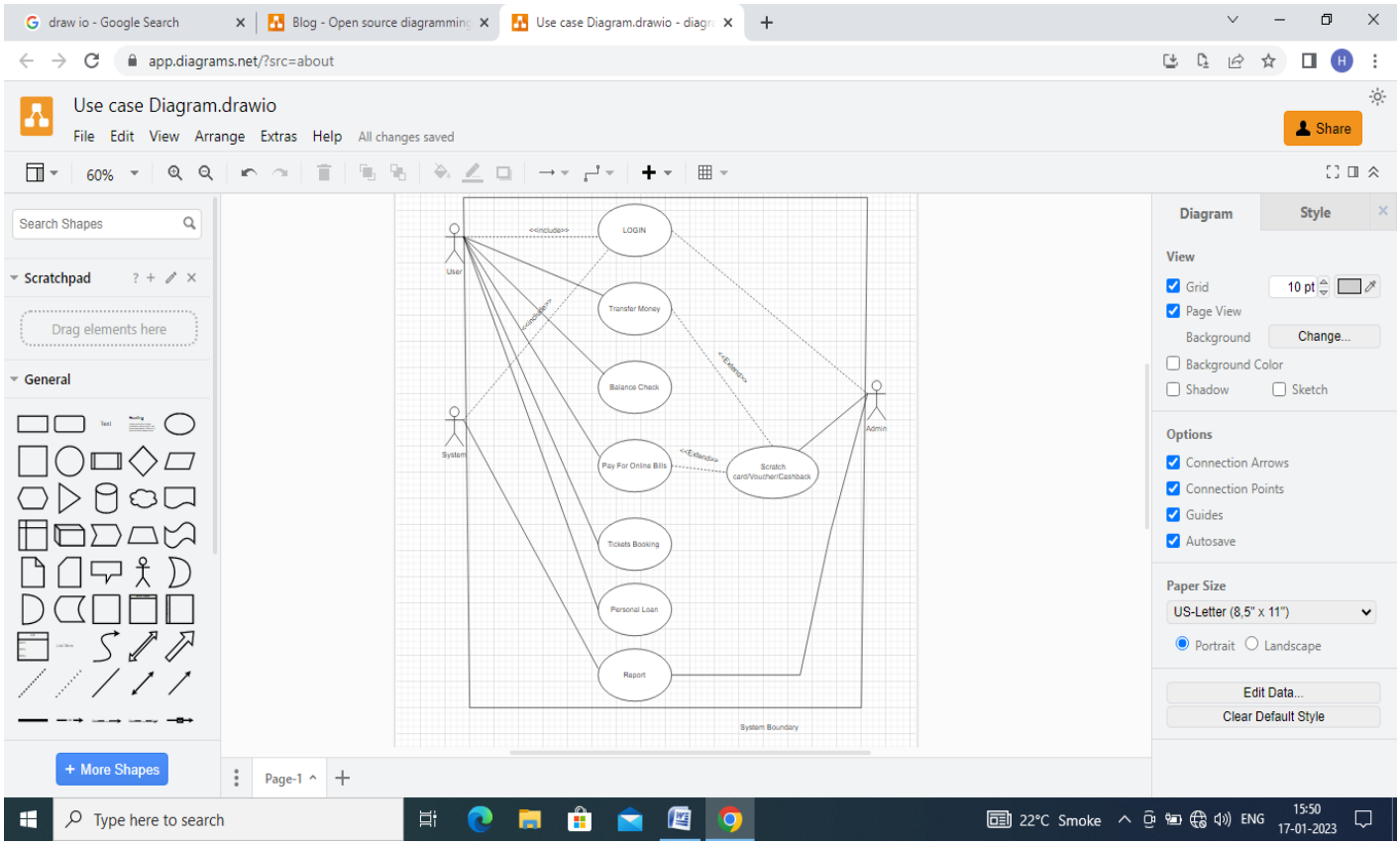


Q:6. What is Use case Diagram? Creat a Use case on bill payment on Paytm.

Ans **Use Case Diagram** : Use case diagrams dfescribe the high level functions and scope of a systems. These diagrams also identify the interactions between the system and its actor.

The use cases are actors in use case diagrams describe what the system does and how the actors use it, but not how the system operates internally.

Use Case Diagram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