Assignment-1

1)What is software?What is software engineering?

*Software is the collection of instuctions,data or computer programs that are use to run machines and cary out particular activites.
*Software Engineering is the process of designing,developing,testing and maintaining the software.It is systematic way to create high quality,reliable and maintainable software.It includes a variety of techniques,tools and methodlogies including requirements analysis,design,tetsing and maintenance.

2)Explain types of Software?

*1-System Software:System software is software that directly operates the computer hardware and provides the basic functionality to the users as well as to the other software to operate smoothly.
-System software basically controls a computerâ€™s internal functioning and also controls hardware devices such as monitors, printers, and storage devices.
-Types of system software:
*Operating Sysytem
*Language Processor

*2-Application Software:Software that performs special functions or provides functions that are much more than the basic operation of the computer is known as Application software.
-Types of Application software:
*Customized Software
*General purpose software

3)What is SDLC? Explain each phase of SDLC.

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

Stage-1: Planning: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.

Stage-2:Requirement Analysis:The information from this analysis forms the building blocks of a basic project. The quality of the project is a result of planning. Thus, in this stage, the basic project is designed with all the available information.

Stage-3;Designing: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 (DDS). This DDS is assessed by market analysts and stakeholders. After evaluating all the possible factors, the most practical and logical design is chosen for development.

Stage-4:Developing:Developers use a specific programming code as per the design in the DDS. Hence, it is important for the coders to follow the protocols set by the association. Conventional programming 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 regulations.

Stage-5:Testing: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, all the probable flaws are tracked, fixed, and retested. This ensures that the product confronts the quality requirements of SRS.

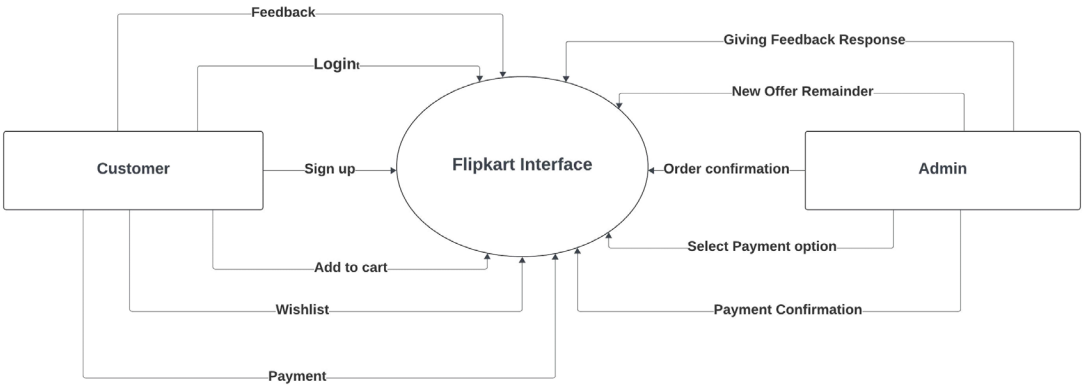
Stage-6:Deployment:After detailed testing, the conclusive product is released in phases as per the organization's strategy. Then it is tested in a real industrial environment. It is important to ensure its smooth performance.

Stage-7:Maintenance:If it performs well, the organization sends out the product as a whole. After retrieving beneficial feedback, the company releases it as it is or with auxiliary improvements to make it further helpful for the customers. However, this alone is not enough. Therefore, along with the deployment, the product's supervision.

4) What is DFD? Create a DFD diagram on Flipkart.

*DFD:Data Flow Diagram (DFD) represents the flow of data within information systems. Data Flow Diagrams (DFD) provide a graphical representation of the data flow of a system that can be understood by both technical and non-technical users. The models enable software engineers, customers, and users to work together effectively during the analysis and specification of requirements.

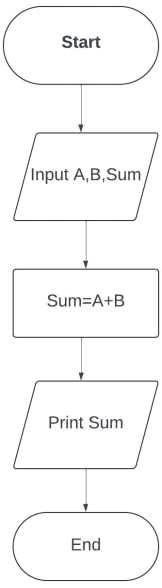
*DFD diagram for Flipkart:



5)What is Flowchart? Create a flowchart to make addition of two numbers.

*Flowchart: Flowcharts are nothing but the graphical representation of the data or the algorithm for a better understanding of the code visually. It displays step-by-step solutions to a problem, algorithm, or process.

*Flowchart of addition of two numbers:



6) what is use case diagram? Create the use case diagram for bill payment on paytm.

*Use case diagram: A Use Case Diagram is a vital tool in system design,

it provides a visual representation of how users interact with a system. It serves as a blueprint for understanding the functional requirements of a system from a user's perspective, aiding in the communication between stakeholders and guiding the development process.

*Use case diagram for bill payment on paytm: