Assignment 1

1. What is the Monolithic Application? Explain with few examples of Monolithic application in real life.

A monolithic application is a type of software where all the features and components are combined into a single codebase and deployed together. This means everything — from the user interface to business logic to the database — is tightly connected and runs as one big unit.

In real life, a simple blogging platform built as one single project where the login, post editor, comment system, and admin panel are all inside the same codebase is an example of a monolithic application.

Some other examples include:

- Older versions of e-commerce platforms like early Magento or PrestaShop.

- Banking software built years ago, where everything is bundled into one large executable.

- A typical college project where frontend, backend, and database are all coded in one file or folder.

2. What are the limitations of Monolithic application? Describe.

While monolithic applications are simple to build at first, they come with some major drawbacks:

- Hard to scale: If one part needs more resources, you have to scale the whole app.

- Tough to update: Even a small change requires testing and deploying the entire application.

- Difficult to maintain: As the app grows, the code becomes bulky and harder to manage.

- Low flexibility: You can't use different technologies for different parts. Everything must follow the same stack.

- Risk of crashing: If one part fails, it can bring down the entire system.

Because of these issues, many teams now move towards microservices, where apps are broken down into smaller, independent services.