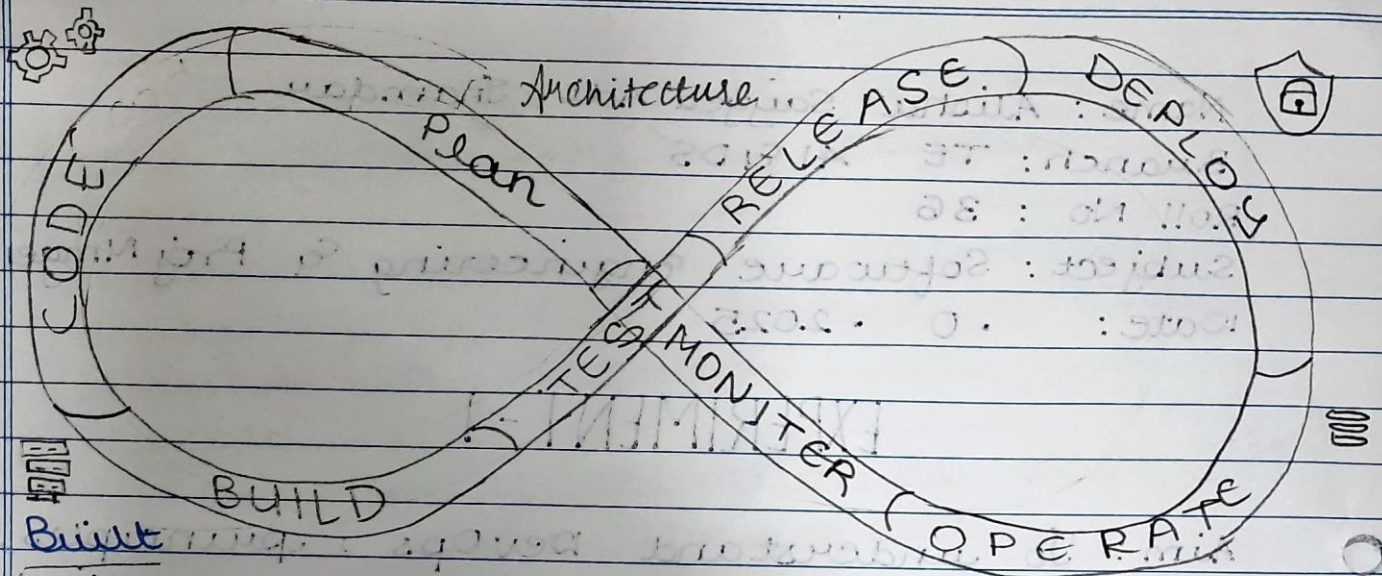# EXPERIMENT - 1

Aim: To understand DevOps, principles, practices & DevOps roles & responsibility

Theory:

- DevOps is the combination of 2 words, one is Development & other operations. It is a culture to promote development & operations collectively.
- DevOps helps increase organisation speed to deliver applications & services. It allows to serve customers better & compete more strongly.
- It can also be defined as a sequence of development & IT operations with better communication & collaboration.
- It is one of the most valuable business disciples for enterprises or organisations with help of DevOps, quality & speed improves with great extent.

The diagram shows a DevOps infinity loop with stages: Plan, Architecture, Code, Build, Test, Release, Deploy, Operate, Monitor.

a. Built

Without Devops, resource consumption is pre-defined with fixed software. With Devops, cloud usage & resource sharing optimize allocatⁿ based on needs.

b. Code

Version systems like Git help track changes, revert to previous versions & organise code efficiently for reuse.

c. Test

Manual testing takes time, whereas automation speeds up the process reducing deployment time & eliminating manual errors.

d. Plan

Agile methodology aligns development & operations improving productivity & work organizⁿ.

e. Moniter

Continous monitering detects failure

tracks system health & uses tools like Splunk for log Analysis.

f. **Deploy**

Automated schedulers & cloud management platforms optimize deployment & provide insights via dashboards.

g. **Operate**

DevOps foster collaboration b/w devlopment & operat^n teams throughout.

h. **Release**

Automat^n supports deployment but product^n releases often require manual intervent^n to minimize customer impact.

Principles

- Collaborat^n
- Data based descisn making
- Customer centric dco^n making
- Constant improvement
- Responsibility throughout life cycle
- Automation
- Failure as learning opportunity

Advantages

- faster development & deployment
- Quick response to market changes
- Reduced software delivery time & costs
- Clearer product devlopment & delivery

- Enhanced customer exp & satisfact?
- simplified collab w/ cloud based tools
- encourages teamwork & improve productivity

Disadvantages
- shortage of skilled DevOps profes's?
- high development costs
- difficut to integrate into industry
- lack of DevOps knowledge hinders automat? projects

Conclusion:
Hence, we've known what DevOps is & its advantages & disadvantages

④