**A PROJECT REPORT ON**

**“Development and Operations”**

Submitted in the partial fulfillment of the record for the award of the degree

**“BACHELOR OF SCIENCE IN COMPUTERS”**

Submitted by

**K.PREM KUMAR- K2237413**

Under the Guidance of

# Ms. G.MADHURI MCA

Submitted to

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS



**KAKARAPARTI BHAVANARAYANA**

**COLLEGE**

**(AUTONOMOUS)**

(Sponsored by S.K.P.V.V Hindu High Schools Committee) Kothapeta, Vijayawada - 520001.

# Affiliated to KRISHNA UNIVERSITY

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**PROGRAM BOOK FOR**

# SHORT-TERM INTERNSHIP

## (Onsite/Virtual)

Name of the Student: K.PREM KUMAR

Name of the College: **Kakaraparti Bhavanarayana College**

Registration Number: **K2237413**

Period of Internship: From: 24-03-2025 To:22-05-2025

Name & Address of The Intern Organization:Quality Thoughts Pvt. Ltd,

Vijayawada.

**Krishna University**

**YEAR: 2023 to 2027**

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**An Internship Report on**

DEVELOPMENT AND OPERATIONS

*Submitted in accordance with the requirement for the degree of*

### BACHELOR OF SCIENCE IN COMPUTERS

Under the Faculty Guide ship of

**Ms. G.MADHURI MCA**

**Department of**

#### Computer Science & Applications, KBN College (Autonomous)

**Submitted by:**

**K.PREM KUMAR**

**Reg.No: K2237413**

#### Department of Computer Science & Applications

**Kakaraparti Bhavanarayana College**

**(Autonomous)**

**Affiliated to KRISHNA UNIVERSITY**

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## Student’s Declaration

I’m K.PREM KUMAR student of **BACHELOR OF SCIENCE IN COMPUTERS** Program, Reg. No. **K2237413** of theDepartment of **Computer Science & Applications** at **Kakaraparti Bhavanarayana College** do hereby declare that I have completed the mandatory internship from **24-03-2025** to **22-05-2025** in **DevOps** in Vijayawada under the Faculty Guide ship of Honorable **Ms.G.MADHURI**, Department of **Computers Science And Applications**,

**Kakaraparti Bhavanarayana College (Autonomous).**

*(Signature and Date)*

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### Official Certification

This is to certify that K.PREM KUMAR Reg. No:K2237413 has completed his/her Internship in DevOps onUsing ubuntu, github, docker etc.,under my supervision as a part of partial fulfillment of the requirement for the Degree of **BACHELOR OF SCIENCE IN COMPUTERS** in the Department of **Computer Science & Applications** in **Kakaraparti Bhavanarayana College (Autonomous).**

This is accepted for evaluation.

*(Signatory with Date and Seal)*

**Endorsements**

*Faculty Guide*

*Head of the Department*

*Principal*

*5*

## Certificate from Intern Organization

**G R**

This is to certify that K.PREM KUMAR Reg. No: **K2237413** of

**Kakaraparti Bhavanarayana College (Autonomous).** Underwent internship in **DevOps** from **24-03-2025** to **22-05-2025**

The overall performance of the intern during his/her internship is found to be

(Satisfactory / Not Satisfactory).

*Authorized Signatory with Date and Seal*

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### Acknowledgements

*My sincere thanks to* ***Mr. P. RAVINDRA, Head ,Dept. of Computer Science & Applications, KBN College, Vijayawada,*** *for providing an excellent environment .*

*I acknowledge with thanks the valuable guidance of* ***Ms*.*G.MADHURI,* *Dept.***

***of Computers Science & Applications*** *for their kind cooperation in times of need.*

*I am very thankful to the lab faculty who always readily solved the problems during development by giving their valuable suggestions. Their encouragement assisted me in making this project a success.*

*I express thanks to all the teaching and non-teaching staff members of* ***Dept. of Computers Science & Applications, KBN COLLEGE (Autonomous) in Vijayawada****.*

*I express thanks to all the teaching and non-teaching staff*  *members*

***DEVELOPMENT AND OPERATIONS***

*Last but not the least I also acknowledge with humble gratitude to my parents, my team members and my dearest friends who helped me to complete this project.*

#### Submitted By

**K.PREM KUMAR**

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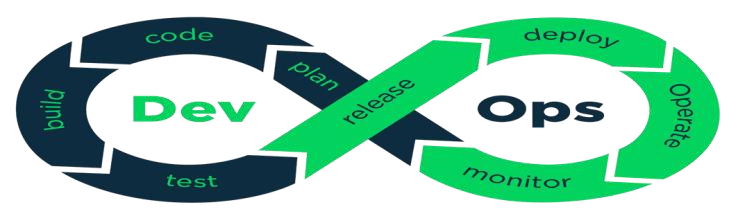
**CHAPTER 1: EXECUTIVE SUMMARY**

**What is DevOps?**

DevOps means Development and Process. DevOps is the process of Software Development Process (SDLC). It is used for collaboration and Communication.

**Why is DevOps?**

It improves Communication and collaboration, Improve Security.



**What is SDLC and Models?**

SDLC means Software development Life Cycle. It includes planning, Design, Development, Testing, Deployment, Maintenance.

Models:

* Waterfall Model
* Agile Model
* Iteration Model
* Spiral Model
* V Model
* DevOps Model

**DevOps Life Cycle (7c’s) and working:**

* Continuous Development
* Continuous Testing
* Continuous Deployment
* Continuous Operate
* Continuous Integration
* Continuous Monitor
* Continuous Logging

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Continuous Development:It is used for initial code to deployment

Continuous Testing:It test the every state of project before deployment

Continuous Deployment: Automates the release of new code changes to production environment

Continuous Operate: It checks the project environment day-to-day

Continuous integration: Merging code changes from individual developers

Continuous Monitor: It includes security events, application specific metrics and resource utilization Continuous Logging:

The ongoing practice of collecting, storing, and analysing log data

**DevOps Principles:**

* Automation
* CI/Cd Pipelines
* Feedback
* Customer Centric
* End to End
* Data Driven

These are the core principles to learn DevOps.

Principles of

DevOps

Automatic

CI/Cd

Pipelines

Feedback

Customer

-

Centric

end to end

data

driven

##### Operating System

Operating System means communication between the user and hardware

* System Oriented Operating System
* Server Oriented Operating System

**Virtualization:** We can install multiple OS

Application platform (os/window/linux/macos)

Java file create a ‘.’ Class file while compiling and run Applications of virtualization are:

* VM ware workstation
* Virtual Box o Hyper-V(micro-soft)
* Xen
* Parallel

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Features o Supports windows, linux and macos as guest OS o Snapshot(restoring system) o Cloning(replicate-same in both)

* Encryption(realtime-storing data to not able to hack or change) o Decryption(change into encryption and then to decryption) **Why Virtualization?**

Enable running multiple OS on a single machine, useful for testing, development and cloud environment.

TYPES o Full virtualization: vmware,virtual box o Para virtualization: Xen

* Container based virtualization: Docker,LXC

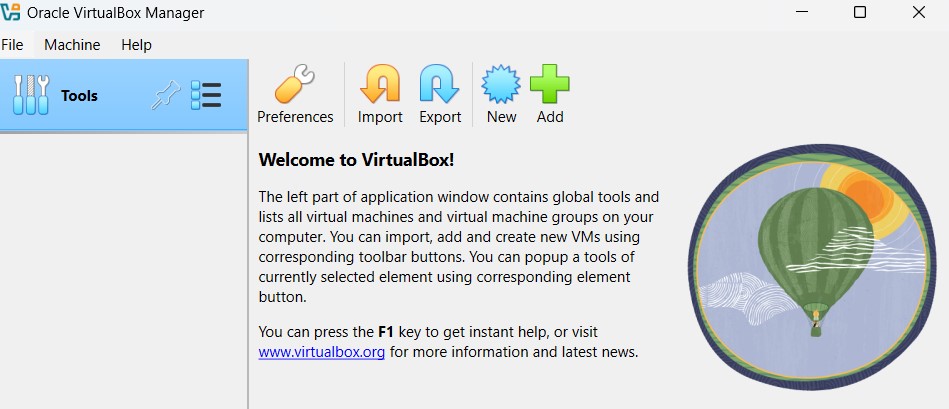
##### Creation of VM ware work station

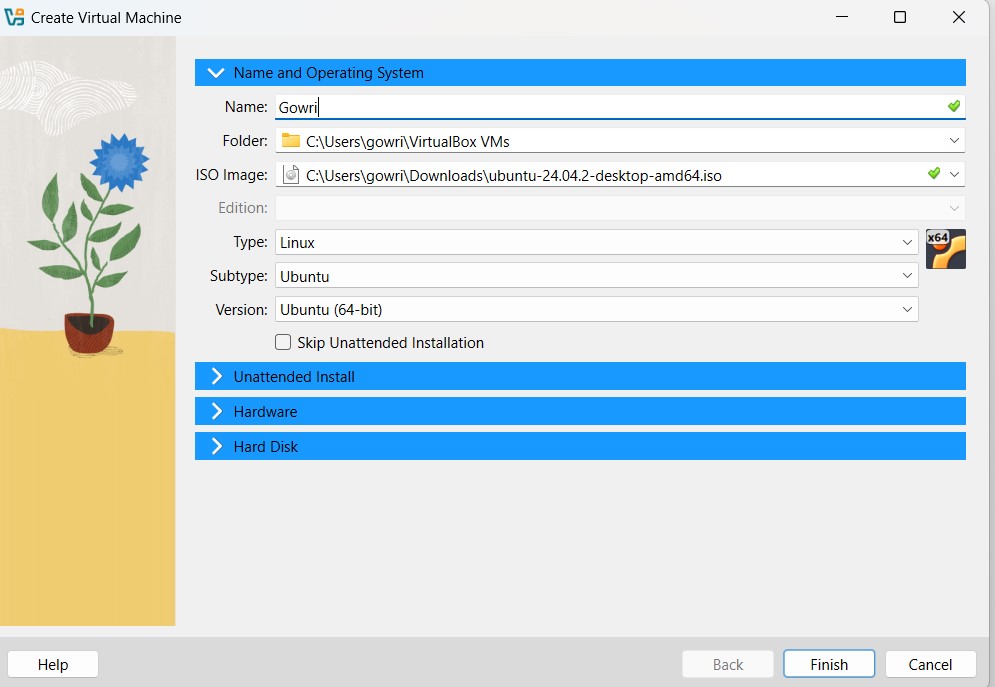
First install ubuntu and To create VM ware workstation the following steps to be followed

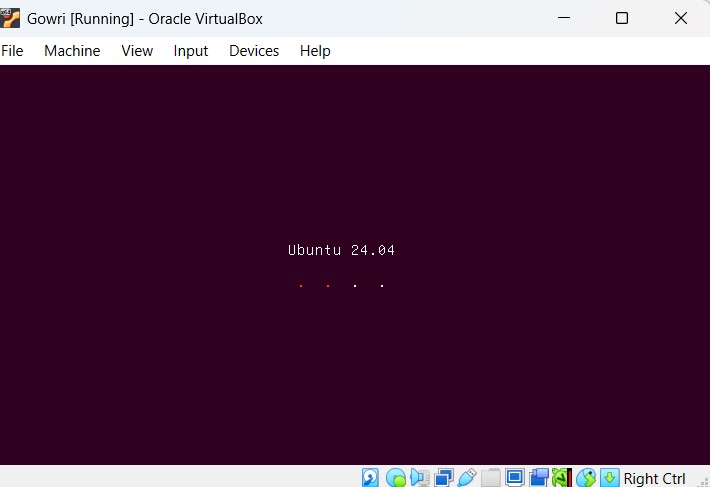
* Open virtual new
* Click on new
* Give a name (ex:subhash)
* Click on next
* To give ISO name click on the drop down button and other/open folder
* Select ubuntu and open Unattended email
* Username: prem
* Password: \*\*\*\*\*
* Confirm Password: \*\*\*\*\*

Memory (ram) : 2GB Hard disk : 25GB

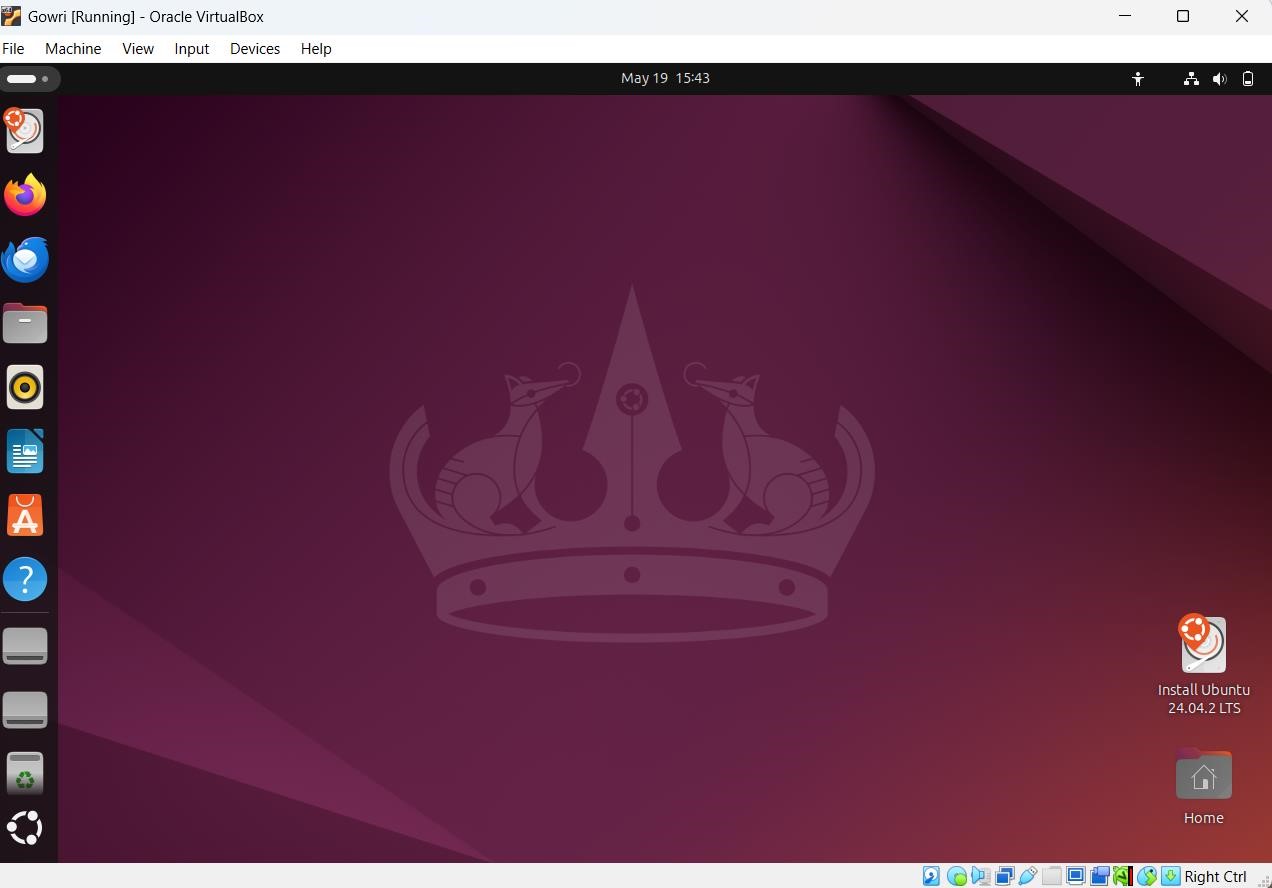
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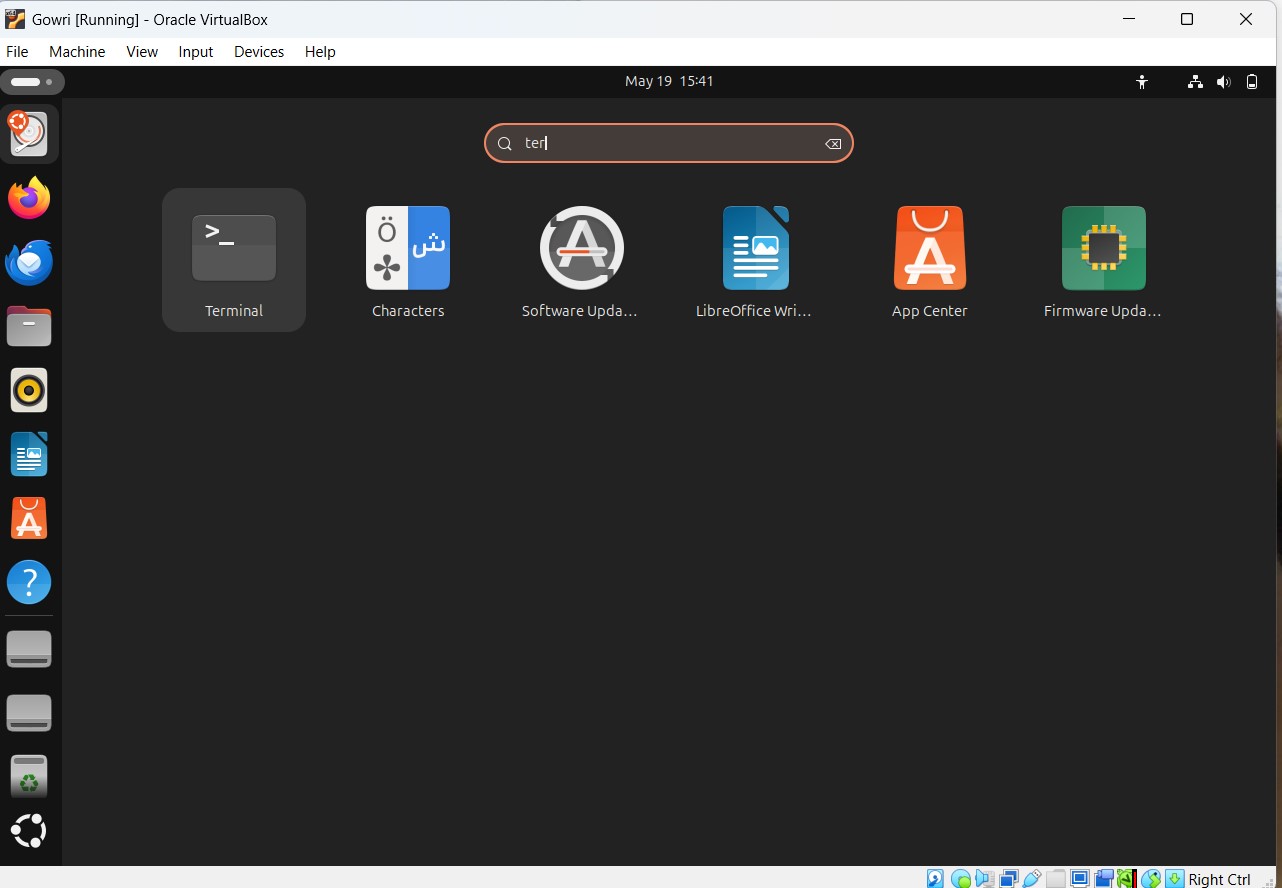


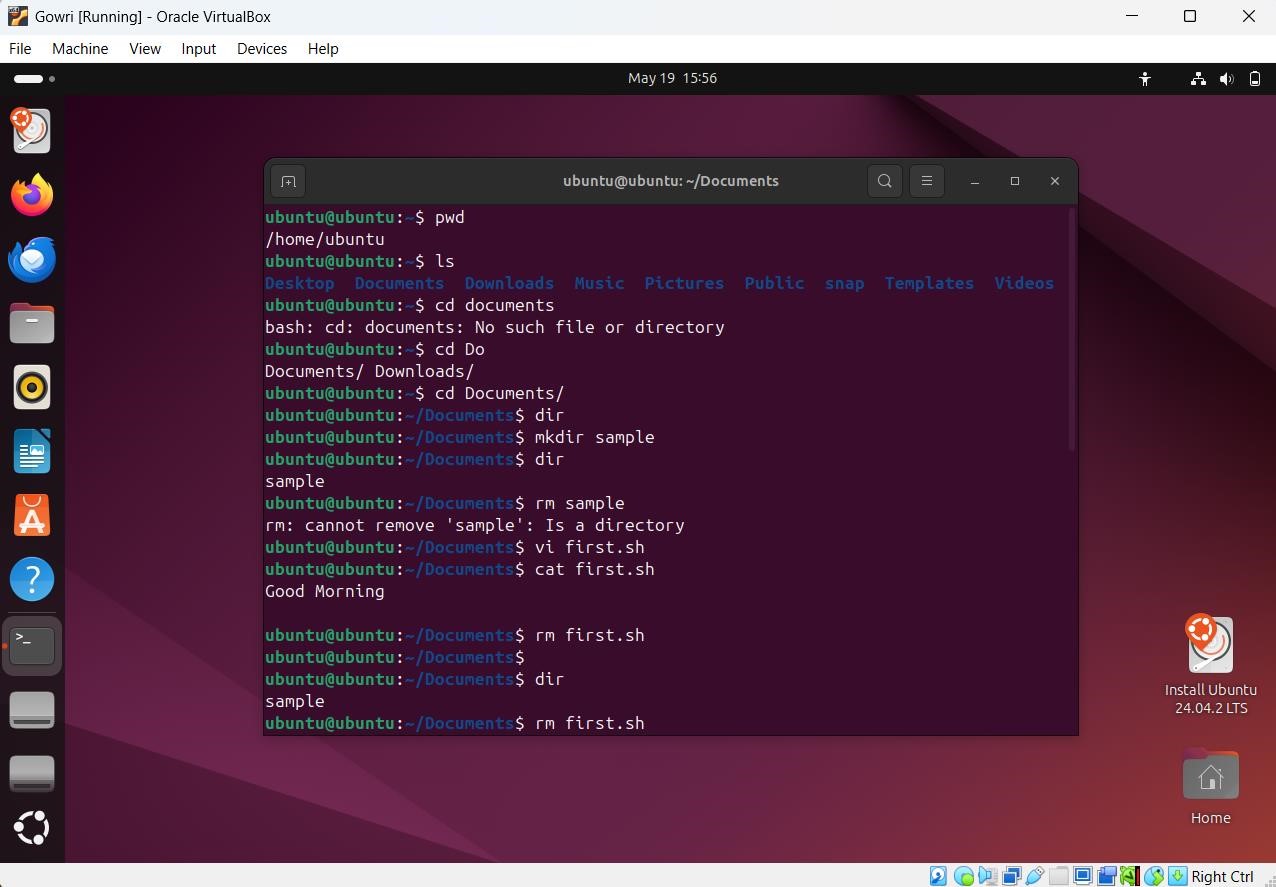




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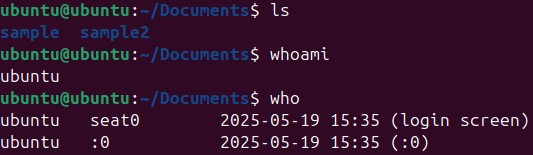
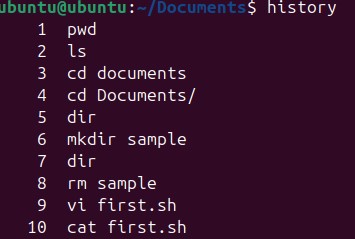
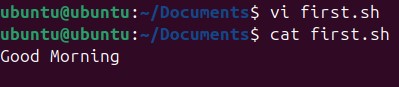
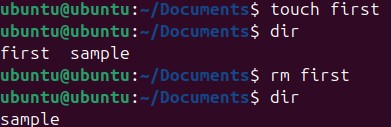


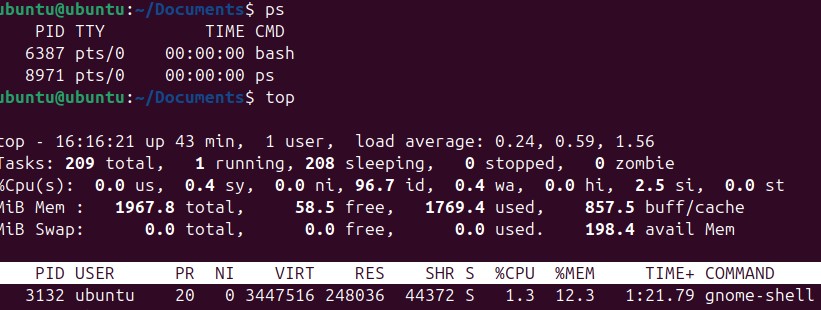
***COMMANDS***

BASIC COMMANDS:

* pwd -- Print current working directory o ls -- List files and directories o cd <dir> -- Change directory o mkdir <dir> -- Create a nw directory
* rm <file> -- delete a file
* rm dir <dir> -- remove an empty directory o rm-r <dir> -- delete a directory and its content o cp <source> <destination> -- copy a file o mv <source> <destination> -- move/rename a file FILE AND DIRECTORY MANAGEMENT:
* touch <file> -- create an empty file o cat <file> -- view file content o nano <file> -- edit file with nano editor o vin <file> -- edit file with vin editor o find/path – name <file>-find a file by name
* locate <file> -- find a file quickly o chmod 777 <file> -- change file permissions o chown user : user <file> -- change file owner SYSTEM MONITORING:
* df-h – show disk usage (hard disk storage) o du-sh <dir> --show directory size (ram storage)
* free-h -- show memory usage o up-time -- show system uptime o uname-a-- show command history PERMISSIONS AND OWNERSHIP: o ls-l -- show file permissions o chomd 755 <file> -- change file owner o chown user : group <file> -- change group ownership USER MANAGEMENT:
* whoami – display current user o who – show logged in user o adduser <username> -- add new user o deluser <username> -- remove a user o passwd <user> -- change user password o usermod - aG <group> <user> -- add user PROCESS MANAGEMENT:
* ps – show running process o top – display real time process monitoring
* kill <PID> -- kill a process by ID o kill all <name> -- kill all process by name o h top – interactive process monitoring





**Shell scripting:**

* Variable means – to store the value o Method/function-group of statements o Examples:

.sh extension

.java .doc

.docx

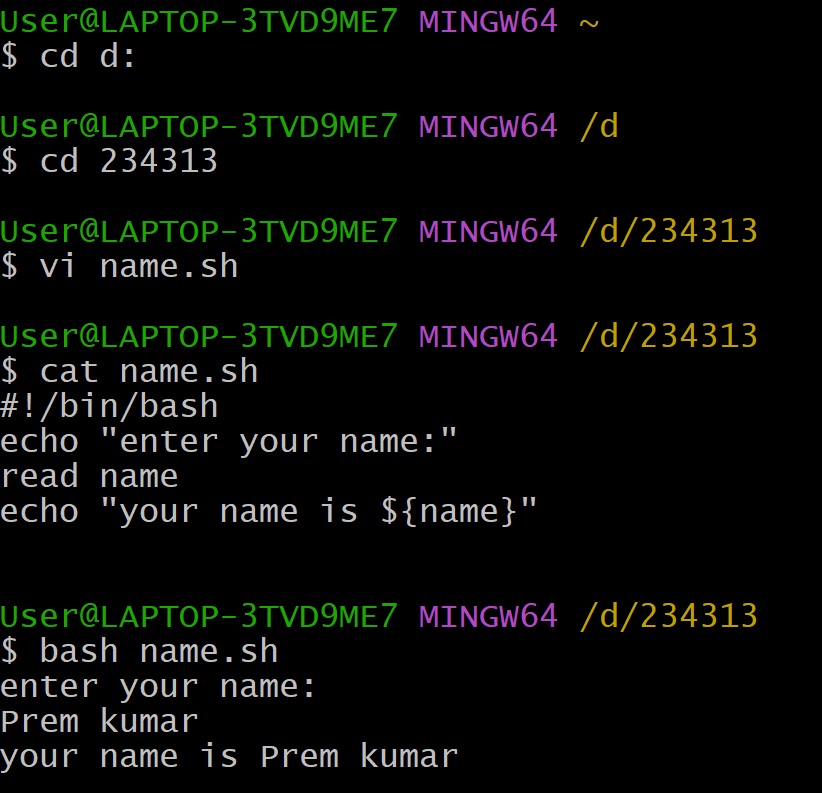
.xls

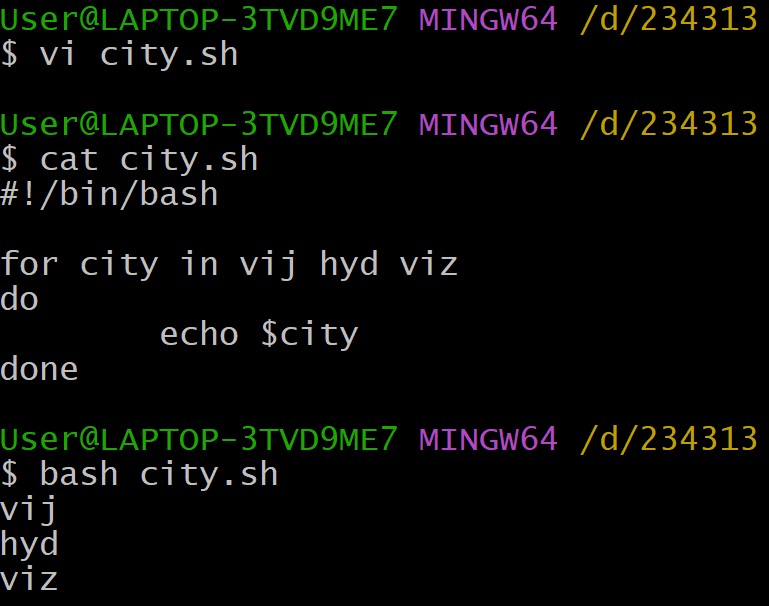
**Vi first.sh**

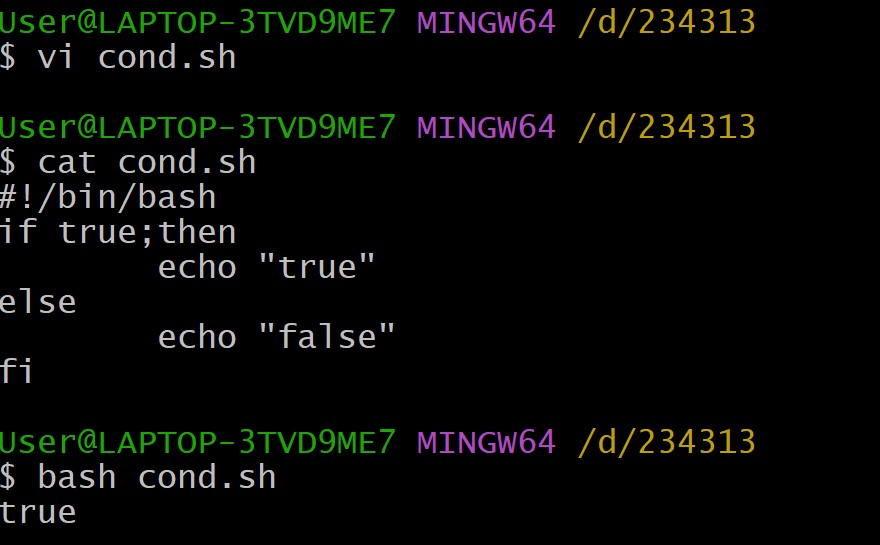
* Vi is used to create a file
* .sh represents shell scripting
* esc and click on insert button to insert the code or program
* delete characters : esc + x
* delete line : esc + d

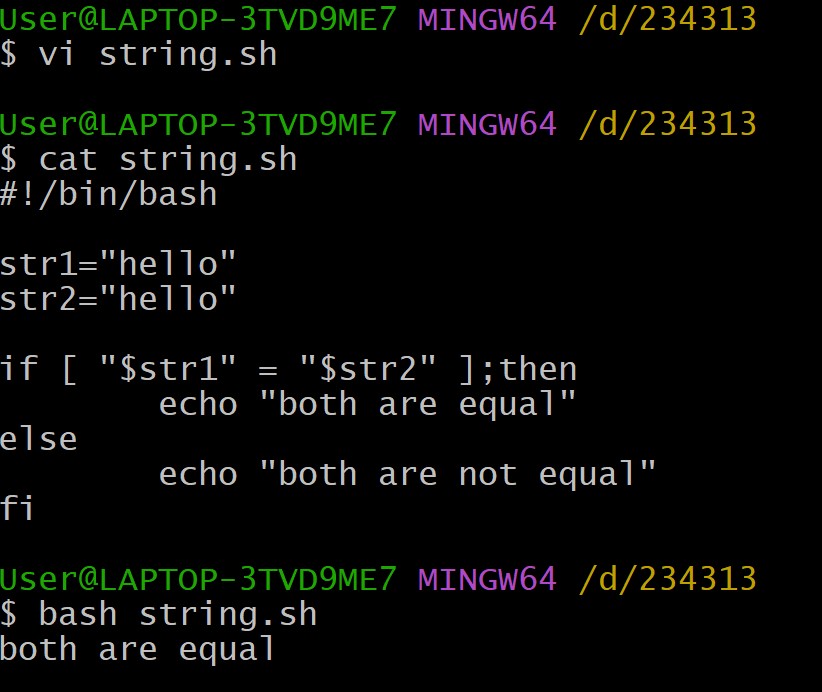
Linux:

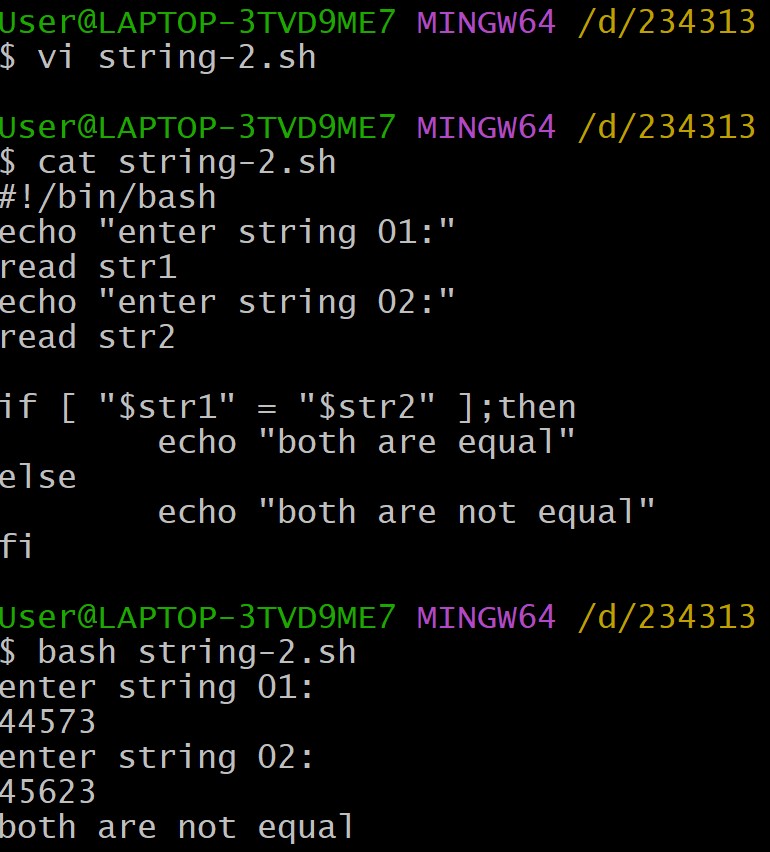
* Companies follows linux for better performance
* Provides more Security than the devops
* Running all commands at a time in linux **Shell scripting Programs:**

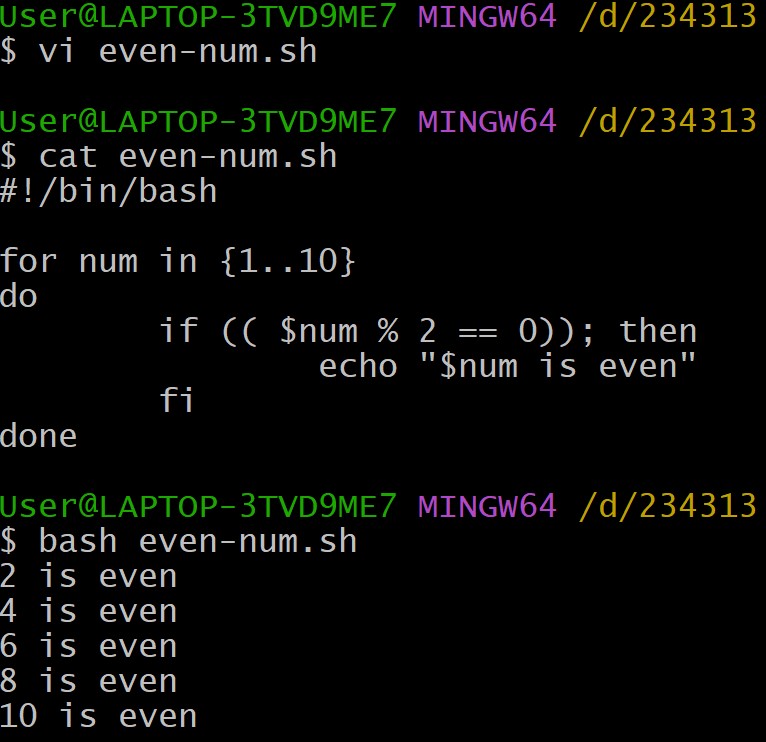


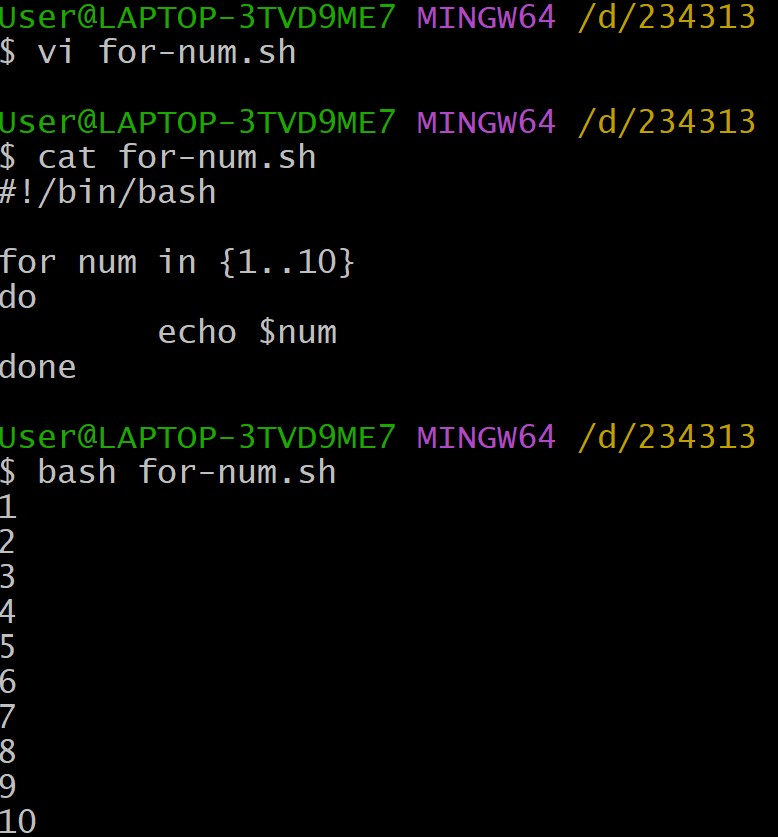


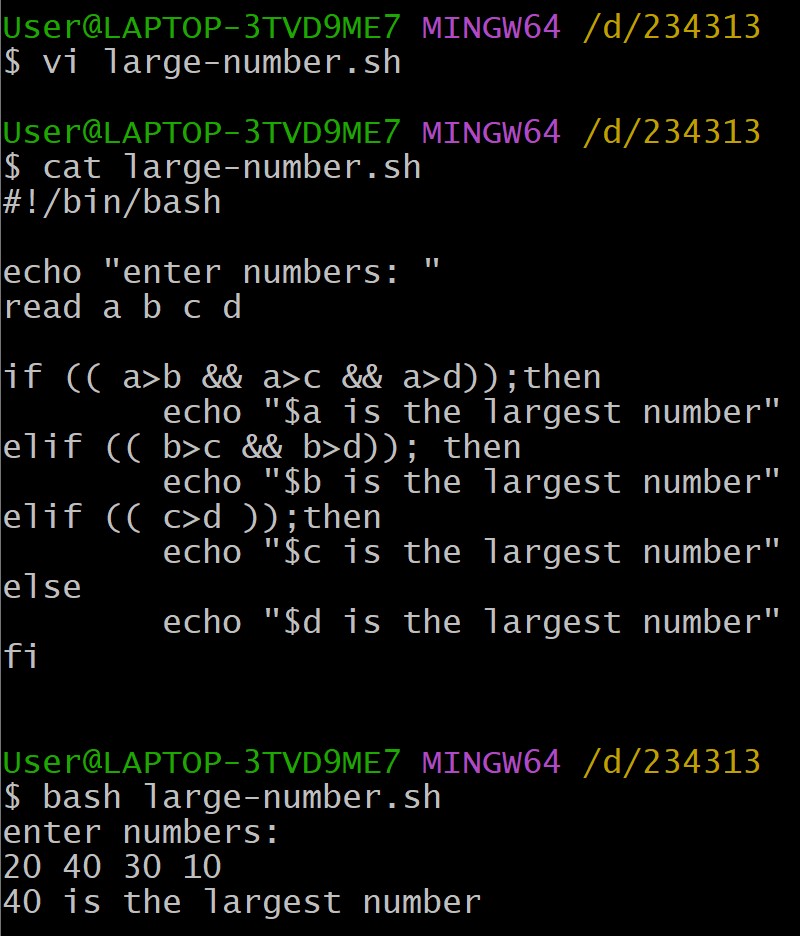


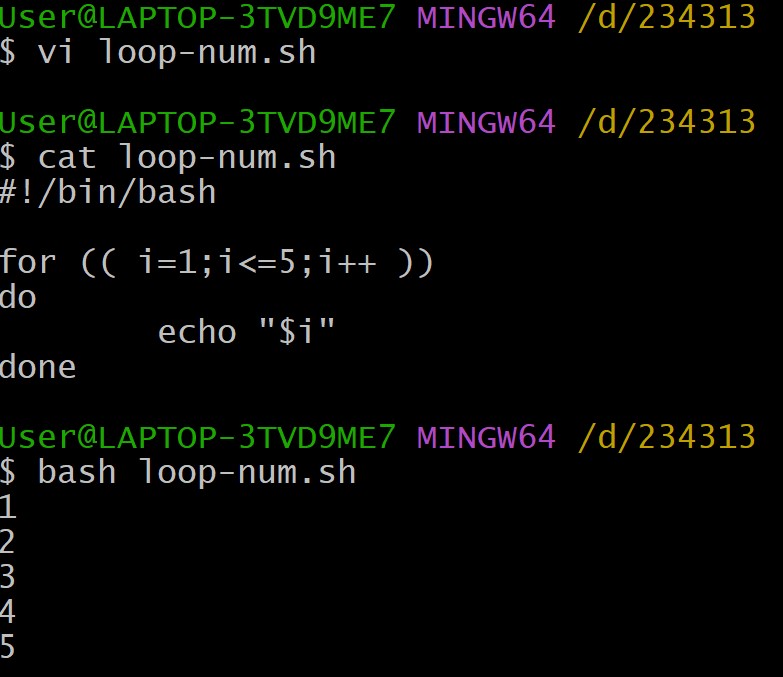


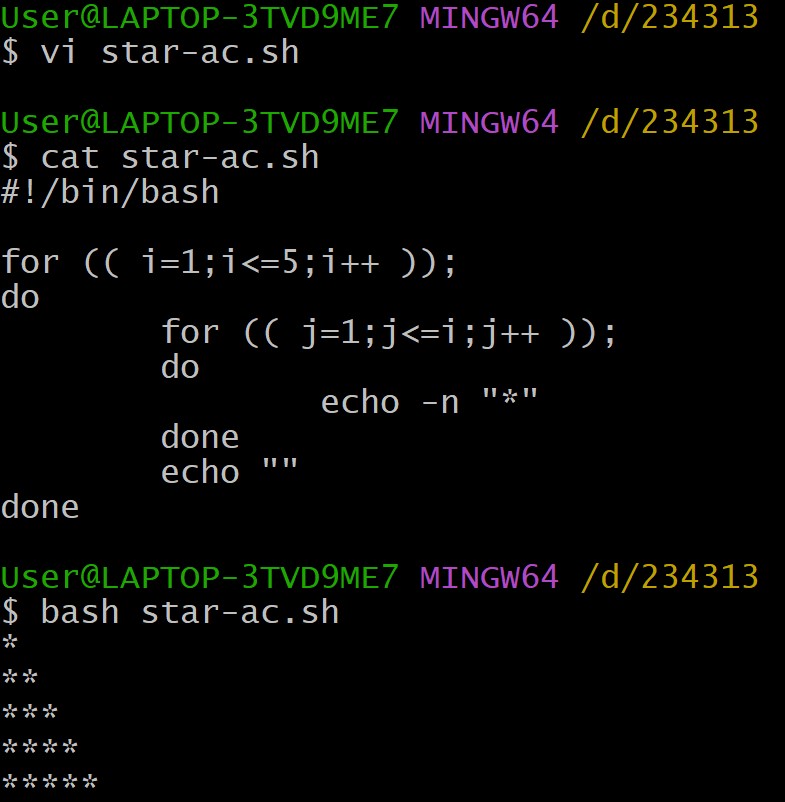


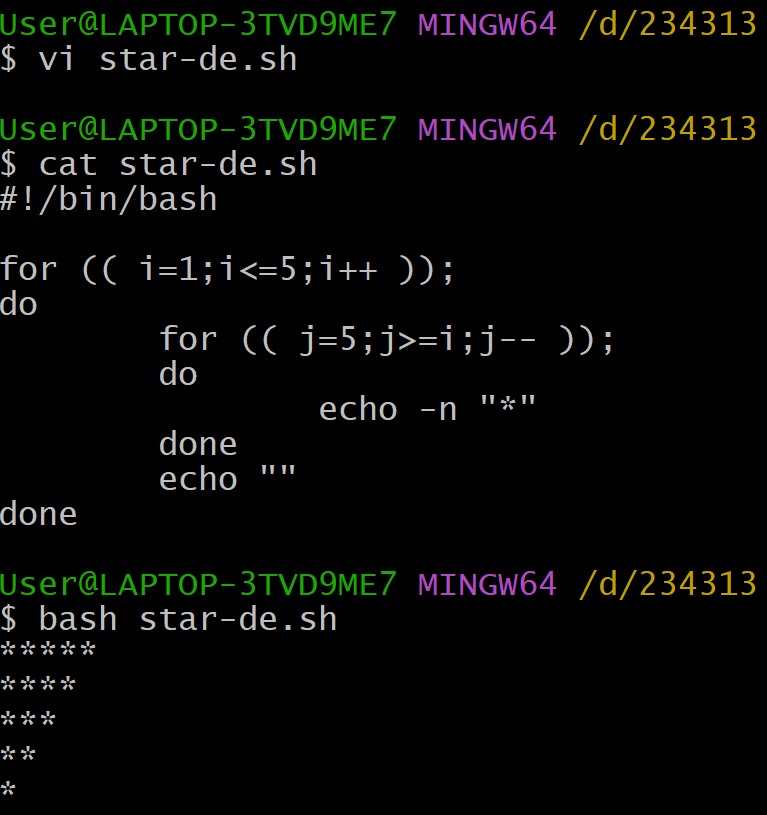






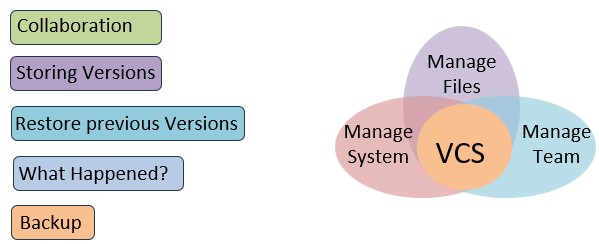






**Version Control:**

**Introduction to version control**



###### Basic Concepts of Version Control

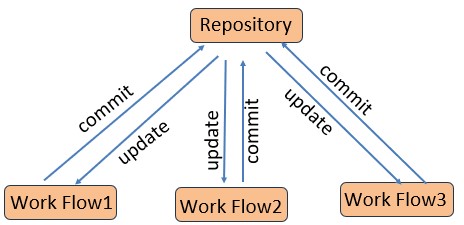


**What is Version Control ?**

Version control system records all the changes made to the files. So if we need a specific version we can call it.

The team members has to work on the latest version of file.

**Work flow of version Control**

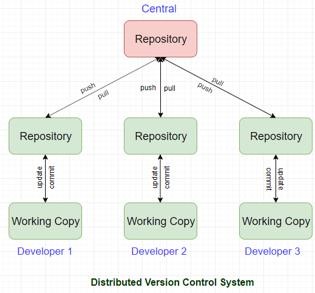
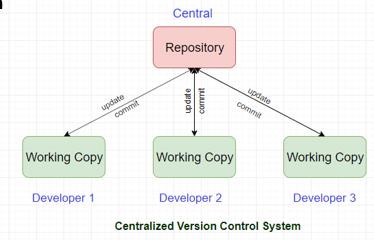


**Advantages of Version Control**

* Back up and Disaster Recovery
* Keep track of all modifications made to code
* Helps to protecting source code

**Types of Version Control**

1.Centralized Version Control 2.Distributed version control

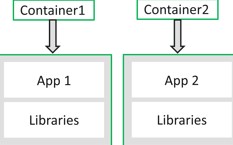
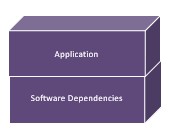


**Best practices of version control**



**Containerization:**

Containerization refers to the process of packaging an application and its dependencies together.



**Key Concepts of Containerization:**

Containers:

Containers are lightweighted,standalone and executable softwarepackages.

Docker:

The most popular platform for

containerization is docker. Docker provides tools to create,deploy and manage containers.

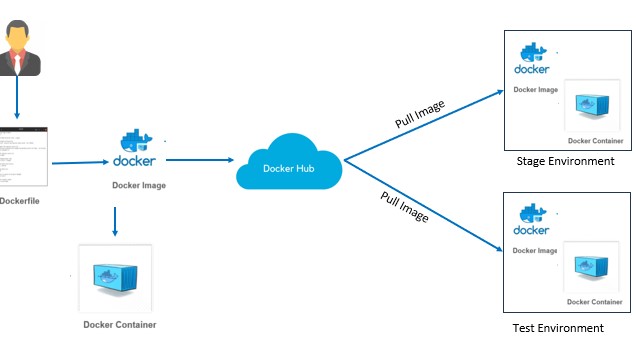
**Kubernetes:**

An open source platform for automating,deployment,scaling and opearions of application.

**Benefits of containerization:**

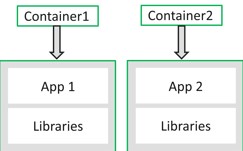
* Consistency and isolation
* Protability
* Scalability
* Resource efficiency
* Fast development

**Container work flow:**



**Introduction to Docker:**

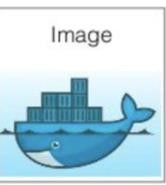
The most popular platform for containerization is docker. Docker provides tools to create,deploy and manage containers.

**Key Concepts and components of Docker:**

* Containers:

Containers are lightweighted,standalone and executable software packages.

* Docker Images:



* 1. Docker Image is a read-only template used to create containers.

* Docker file:
  1. Docker file is a script containing a series of instructions.How build a docker image.

* Docker Hub:

Docker hub is a cloud-based registry service for sharing Docker Images.

* Docker Engine:

It helps run and build the containers o Docker daemon o Docker CLI Docker Installation:

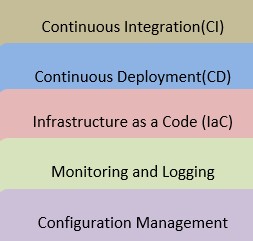
###### Orchestration

Refers to the automated co-ordination and Management of complex workflow or processes across multiple systems or environment

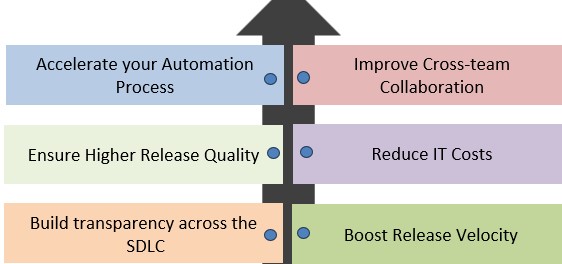
**Automation vs Orchestration**

|  |  |
| --- | --- |
| **Automation** | **Orchestration** |
| Individual tasks | Complex workflow |
| Performing specific tasks, repative tasks | Coordination multiple tasks with dependencies |
| Generally simpler, single tasks | Handles complex interaction and dependences |

**Core components of DevOps Orchestration**



**Benefits of DevOps Orchestration**



###### Tools of DevOps Orchestration



**Use Cases of DevOps Orchestration**

* Continuous Integration and Conntinuous Deployment
* Infrastructure provisioning and Management
* Disaster Recovery
* Compliance Management

###### Best Practices of DevOps Orchestration

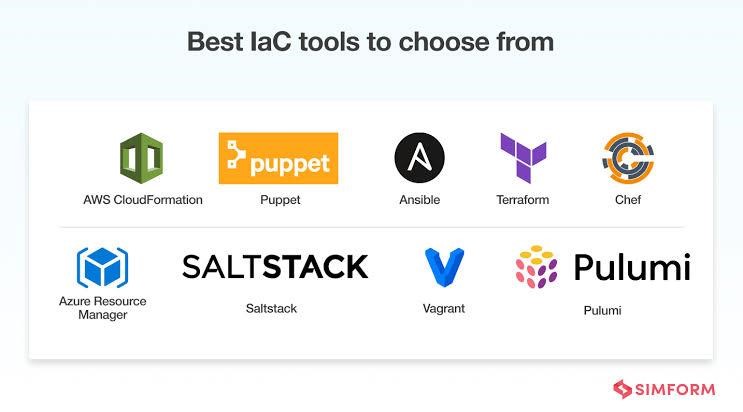


**Infrastructure as Code:**

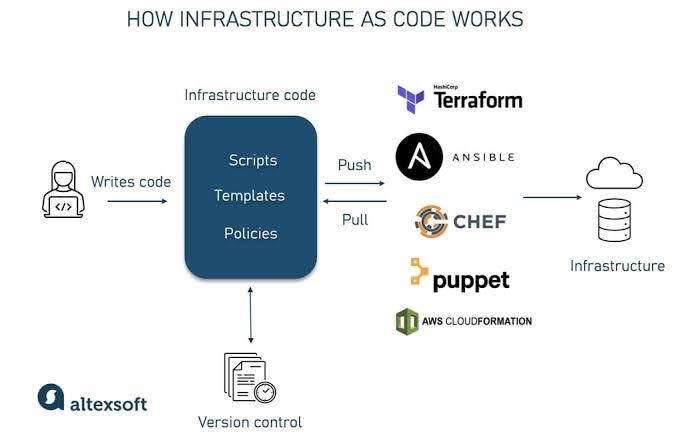
Infrastructure refers to the fundamental systems and services that are necessary for an Organisation, society or community **Benefits:**

* Consistency: It can uniformly and reability from code to infrastructure to deployment
* Speed and efficiency: It is used for boost in software, development and delivery • Version control: It is used for managing the all files in overtime **APPLICATIONS:**
* Cloud computing: It delivers the services like storage, database and internet of software
* Networking : It connects to other devices to share the information
* Database deployment: It involves database changes into devOps pipelines
* Web application deployment: It used for building, testing in automation way
* CI/CD : It used for streamlines the software development life cycle (SDLC)
* devOps: It is a software engineering big data: The datasets are difficult to process and analyze **Advantages:**
* Automation and consistency
* Version control
* Speed, Cost and efficiency
* Collaboration and shared knowledge
* Environment consistency
* Disaster recovery and rollbacks **Disadvantages:**
* Learning curve
* Overhead and management
* Misconfiguration and bugs
* Complexity of scale
* Security concerns

**IaC Tools :**



**Working:**



**REAL WORLD EXAMPLE:**

* Terraform for multi-cloud deployment: Allowing to manage multiple clouds with a single workflow
* Ansible for configuration management: It allows to maintain to multiple states to central location
* Cloudformaton in AWS: It used for define and resource the structure

##### NETWORKING OSI MODEL

1.physical layer: it controls the signaling and transferring of raw bits

2.Data link layer: it packages the higher-layer data into frames, it defines the data on network

3. Network layer: it can forward the data between different networks

4.Transport layer: it ensures the reliable transfer data arrives its destination without any errors

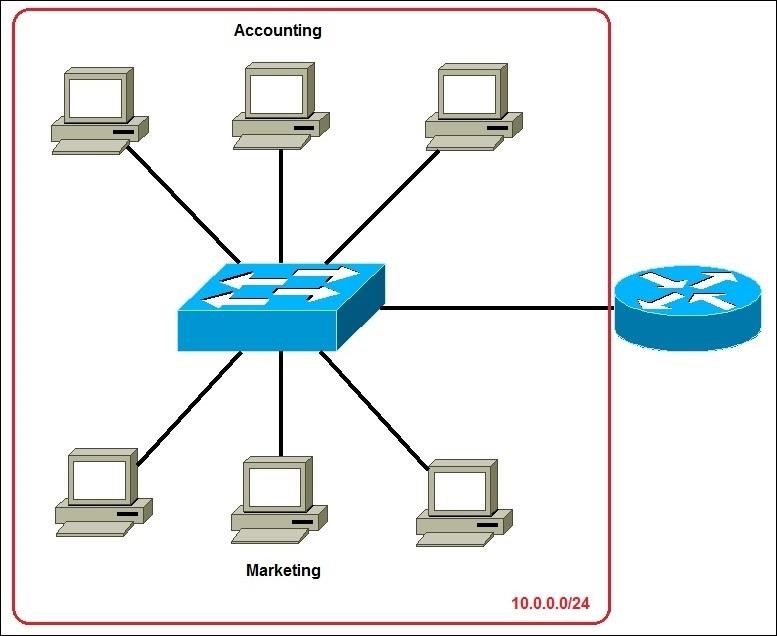
5.Session layer: it controls the connection between devices

6.Presentation layer: it ensures the application from the sender that the receiver understood

7.Application layer: it interface between the user application and network

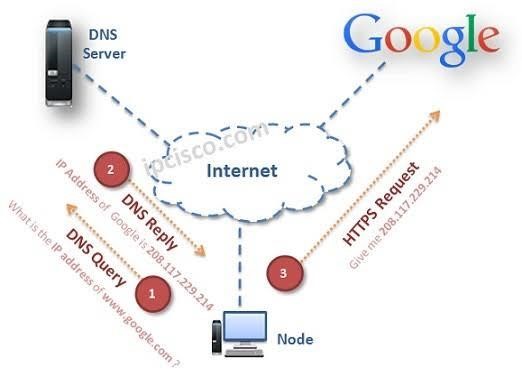
**PROTOCOLS:**

* Transmission control protocol (TCP): It is used for delivered the data between the applications on systems
* User datagram protocol (UDP): It is used for transmit the data and it is a lightweight protocol
* Internet protocol (IP): It defines the transmitted of datas **PORTS SUBNETTING** Subnetting:
* It divides a large into smaller networks
* It has more subnets Ports:
* This are used for identify the applications on network

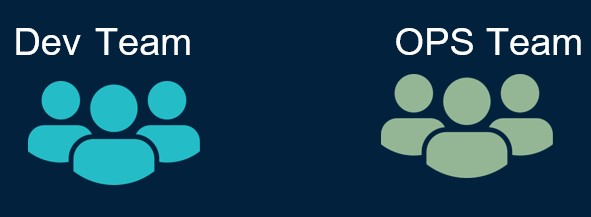


**ROUTING DNS:**

* DNA means domain name system
* It can turns names into ip address
* It allows the browsers to get a websites



##### DevSecOps

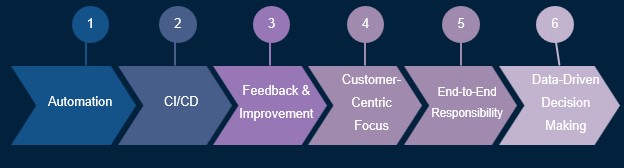








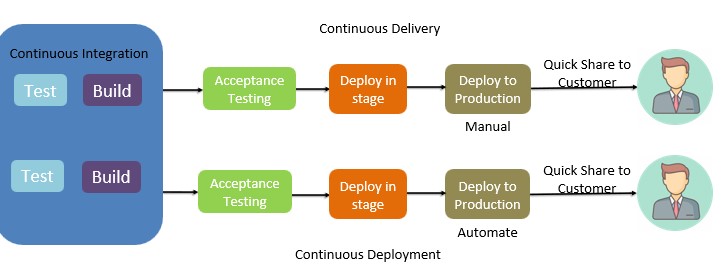
**Core Principles**



**Identity & Access Management (IAM)** IAM: it access the controls to resources and applications

**CI/CD Pipeline Security**

**Work flow**



**IaC:** it is a server where the code managed developed and deployed

**Containers :** Containers are lightweighted,standalone and executable software packages

**Cloud Security:** it protects the cloud data ,applications from cyber threats

**Monitoring:** It includes security events, application specific metrics and resource utilization **Incident Response & Compliance:** it is a crucial for system stability and security **Security Culture & Tools:**

###### CHAPTER 2: OVERVIEW OF THE ORGANIZATION

**CHAPTER 3: INTERNSHIP PART**

**CHAPTER 4:**

**ACTIVITY LOG FOR THE FIRST WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Dat e** | **Brief description of the daily activity** | **Learning Outcome** | **Person**  **In- Charge**  **Signature** |
| 24-Mar-2025  Monday | What is DevOps ? Why DevOps ? | Understand the need for DevOps and its impact on modern software development. |  |
| 25-Mar-2025  Tuesday | What is SDLC and Models ?  DevOps Life Cycle (7C's) and Working | Understand different software development models and the complete DevOps lifecycle. |  |
| 26-Mar-2025 Wednesday | DevOps Principles | Learn the core principles that drive DevOps practices. |  |
| 27-Mar-2025  Thursday | What is Virtualization ? | Understand the concept and importance of virtualization. |  |
| 29-Mar-2025 Saturday | Different type of Virtualization applications  Create new VM in VMWorkstation or  Oracle VirtualBox | Learn to use and differentiate between virtualization tools and create virtual environments. |  |
| 01-Apr-2025 Tuesday | Install Ubuntu and Run Commands | Gain hands-on experience with Linux-based OS and basic terminal commands. |  |

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**WEEKLY REPORT**

**WEEK – 1 (From Dt 12-07-23to Dt 18-07-23)**

**Objective of the Activity Done:**

**Detailed Report:**

**ACTIVITY LOG FOR THE SECOND WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Dat e** | **Brief description of the daily activity** | **Learning Outcome** | **Person In-**  **Charge**  **Signature** |
| 03-Apr-2025  Thursday | Shell scripting programs | Develop and execute basic shell scripts for automation tasks. |  |
| 04-Apr-2025 Friday | Introduction to Version Control  Basics Concepts in Version Control | Understand the purpose and basic concepts of version control systems. |  |
| 07-Apr-2025 Monday | What is Version Control ?  Workflow in Version Control ? | Learn about the working and structure of version control workflows. |  |
| 08-Apr-2025  Tuesday | Advantages of Version Control | Understand benefits such as collaboration, tracking changes, and rollback. |  |
| 11-Apr-2025  Friday | Types of Version Control  Best Practices in Version Control | Learn different types (centralized, distributed) and best practices. |  |
| 12-Apr-2025  Saturday | What is Containerization ? | Understand container technology and its role in DevOps. |  |

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WEEKLY REPORT

**WEEK – 2 (From Dt 19-07-23to Dt 25-07-23) Objective**

**of the Activity Done:**

**Detailed Report:**

**ACTIVITY LOG FOR THE THIRD WEEK**

23

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person**  **InCharge**  **Signature** |
| 16-Apr-2025  Wednesday | Container Workflow  Introduction to Docker | Understand container lifecycle and get introduced to Docker. |  |
| 17-Apr-2025  Thursday | How Docker installation How Docker used as  Containerization in DevOps ? | Learn how to install Docker and use it in    real-world DevOps processes. |  |
| 19-Apr-2025  Saturday | What is Orchestration | Understand the concept of orchestration in system automation. |  |
| 21-Apr-2025 Monday | Automation vs Orchestration what is DevOps Orchestration | Differentiate between automation and orchestration with real examples. |  |
| 22-Apr-2025  Tuesday | Core Components of DevOps Orchestration  Benefits of DevOps  Orchestration | Learn essential elements and advantages of orchestration in DevOps. |  |
| 23-Apr-2025  Wednesday | DevOps Orchestration Tools  Use Cases of DevOps  Orchestration | Explore commonly used orchestration    tools and their practical use. |  |

**WEEKLY REPORT**

**WEEK – 3 (From Dt 26-07-23 to Dt 02-08-23) Objective of the Activity Done:**

**Detailed Report:**

ACTIVITY LOG FOR THE FOURTH WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person In-**  **Charge**  **Signature** |
| 25-Apr-2025  Friday | Benefits & Applications Advantages & Disadvantages | Learn how IaC is applied, with its pros and cons. |  |
| 26-Apr-2025  Saturday | IAC Tools & Working | Get familiar with tools like Terraform, Ansible, and their operations. |  |
| 28-Apr-2025  Monday | Real world Examples | Analyze real-world use cases and implementations of  DevOps practices. |  |
| 29-Apr-2025  Tuesday | Networking OSI Model Protocols : TCP/UDP/IP | Understand networking basics, OSI model and communication protocols. |  |
| 30-Apr-2025  Wednesday | Ports Subnetting | Learn about port usage and IP subnetting. |  |
| 01-May-2025  Thursday | Routing DNS | Understand routing techniques and the role of DNS in networking. |  |

WEEKLY REPORT

**WEEK – 4 (From Dt 03-08-23 to Dt 09-08-23)**

**Objective of the Activity Done:**

**Detailed Report:**

30

**ACTIVITY LOG FOR THE FIFTH WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person In-**  **Charge**  **Signature** |
| 03-May-2025  Sa turday | DevSecOps & Core Principles | Learn the integration of security within the DevOps process. |  |
| 05-May-2025  Monday | Identity & Access Management (IAM) Secrets & CI/CD Pipeline Security | Understand IAM practices and how to secure CI/CD pipelines. |  |
| 06-May-2025  Tuesday | IaC, Containers & Cloud Security  Monitoring, Incident Response & Compliance | Learn cloud-native security practices and compliance handling. |  |
| 07-May-2025  Wednesday | Security Culture & Tools | Understand the cultural shift required for security in DevOps. |  |
| 08-May-2025  Thursday | What is Monitoring ? Types of Monitoring | Learn different types of monitoring techniques in DevOps. |  |
| 09-May-2025  Friday | Monitoring Principles Monitoring Tools | Understand principles behind monitoring and tools used. |  |

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**WEEKLY REPORT**

**WEEK – 5 (From Dt 10-08-23 to Dt 19-08-23) Objective of the Activity Done:**

**Detailed Report:**

**ACTIVITY LOG FOR THE SIXTH WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Dat e** | **Brief description of the daily activity** | **Learning Outcome** | **Person In-**  **Charge**  **Signature** |
| 12-May-2025  Monday | Best Practices of Monitoring What is Logging? | Understand logging basics and monitoring best practices. |  |
| 13-May-2025  Tuesday | Types of Logs Centralized Logging | Learn different log types and centralized logging techniques. |  |
| 14-May-2025  Wednesday | Logging Tools  Implementing Effective Logging | Explore logging tools and how to implement efficient logging. |  |
| 15-May-2025  Thursday | Use cases of Logging Best Practices of Logging | Learn how logs are used in real systems and best practices. |  |
| 16-May-2025  Friday | Documentation | Documentation |  |
| 17-May-2025  Saturday | Documentation | Documentation |  |

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**WEEKLY REPORT**

**WEEK – 6 (From Dt 18-08-23 to Dt 24-08-2023 )**

**Objective of the Activity Done:**

**Detailed Report:**

**Matrix Table:**

**ACTIVITY LOG FOR THE SEVENTH WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day**  **&**  **Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge**  **Signature** |
| 20-May-2025  Tuesday | Documentation | Documentation |  |
| 21-May-2025  Wednesday | Documentation | Documentation |  |
| 22-May-2025  Thursday | Documentation | Documentation |  |

**CHAPTER 5: OUTCOMES DESCRIPTION**

**Work environment I have experienced**

A unique teaching style to help aspiring learners to master the art of managing data and creating powerful dashboards to make intelligent business decisions. Working together to turn your unrelated sources of data into clear, visually immersive, and interactive insights.

Individually getting data from a wide range of systems in the cloud and create dashboards that will track the metrics they care the most. With this technology, enterprises can see their business performance more closely and get immediate results with real-time dashboards available for every device.

All the topics and units are broken down in an easy to learn manner, making the course extremely enjoyable and our friendly instructors delight all our learners to use Power BI successfully. The trainers will help you understand how to use Power BI to analyze data, identify trends and make better decisions. They helped learn how to create reports, dashboards, and interactive visuals with Power BI.

Helped us get the most out of Power BI and make it work for your business.

Interactive and highly engaging BI training course helps candidates across departments communicate performance-related data in a visually understandable manner.

Exploring the different types of testing, preparing, and presenting data quickly and easily. Learn how to turn data into powerful insights that direct and drive informed business decisions - giving your business the edge over competitors.

Learnt about DAX data computation, creating tables, binned tables, data drill down and drill up, Power Q&A, and many more advanced topics.

learn how to create and customize reports, work with advanced analytics,

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*realtime technical skills I have acquired*

The Power BI Developer will have an advantage if they are well-versed in the

Microsoft Business Intelligence stack, which includes Power Pivot, SSRS,

SSIS, and SSAS. Since most companies use Microsoft services and goods, a Power BI Developer with a good scope of knowledge is an asset to the company.

Additionally, we can connect to cloud databases like Amazon Redshift, cloud applications like Sales force, and warehouses. Power BI can connect to any type of data we can imagine. In addition, Power BI has a Web Data Connector that can connect any desired data source by pulling API directly from the web.

Business users with access to Power BI can quickly and easily find valuable data in their sizable Adopt data sets. With this software, users no longer need to be familiar with query languages, making it easier for stakeholders to interact with big data.

Power BI is a business intelligence tool with excellent prospects for the foreseeable future. Its benefits and uses are significantly higher than any doubt that it might go off the market.

Data analysis involves the process of transforming raw data into useful information. It is a process applied to various industries. Power BI can connect to such sources as Google Analytics.

It is easier to understand all the different kinds of reports available in the product as we understand the architecture and components of Power BI. We can create our data models and business rules.

* Proficient with using various visualization tools for this.

* Interactive visualizations of data from various sources. You'll gain

* Familiarity with the various Power BI visualizations available as a result

* Find the KPIs with the appropriate objectives

* Use current and historical data for better decision making

* Technical publications can be derived from business requirements

* Data models that are multi-dimensional. 40

*Managerial skills I have acquired*

Planning is a vital aspect within an organization. Process of formulating a set of actions or one or more strategies to pursue and achieve certain goals or objectives with the available resources. Process includes identifying and setting achievable goals, developing necessary strategies, and outlining the tasks and schedules on how to achieve the set goals. Information shared throughout a team, ensuring that the group acts as a unified workforce. Flow of information within the organization, whether formal or informal, verbal or written, vertical or horizontal, and it facilitates the smooth functioning of the organization. Making proper and right decisions results in the success of the organization, while poor or bad decisions may lead to failure or poor performance. **negotiate the terms of a contract or something discussed**  Avoiding wastage of time, optimizes productivity, and ensures responsibility and accountability on the part. Ability to tackle and solve the frequent problems that can arise in a typical workday. Involves identifying a certain problem or situation and then finding the best way to handle the problem and get the best solution.

creating a safe and positive environment

Exhibit flexibility in their approaches to fast-paced work environments where change is inevitable and welcome. This includes being open to updating processes and applications to meet current industry trends and taking on additional tasks or responsibilities in order to accommodate schedule changes, short- or long-term work overloads, or other needs. Demonstrating time management skills because it shows that even when handling multiple projects or responsibilities, work gets done, deadlines are met, and everyone’s ducks are in neat little rows. Creating a schedule, stick to it, and maintain a perfect work-life balance, they’re looking at a prime candidate.

*listening* supersedes speaking. We usually hear of ―good‖ listening being a key takeaway, but proper listening should be more than good. It should be *active*. Active listening requires the ―listener‖ to concentrate on what’s being said rather than listening for the sake of responding. glazing over larger concerns embedded into an team’s complaint or inquiry.

Motivation helps bring forth a desired behavior or response from certain stakeholders depending on characteristics such as company and team culture, team personalities, and more. A collection of abilities that include things such as business planning, decisionmaking, problem-solving, communication, delegation, and time management.

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*How I could improve my communication skills*

Being able to convey complex, technical concepts to others – not just through their Power BI dashboards and reports, but via face-to-face communication, too. Keeping the communication concise without compromising on the importance of it. This applies to both written and verbal communication. For written communication, proofread, and for verbal communication, practice saying only what is important to the conversation.

Gauge what type of communication they are going to understand. For example, if you are communicating with a colleague or a senior, obviously informal language should not be used. Also, if you use acronyms, you cannot assume that the other person will immediately understand. So, know your listener.

The language you use in your communication should be assertive and active. This form of language instantly grabs the attention of the listener or reader. They will latch on to your every word and the right message will be passed on.

Keeping a positive body language like an open stance and eye contact. This is subconsciously

read by the other person, and their body language also becomes positive.

Proofread what you have written once or twice before sending. One tip is that do not proofread immediately after writing. It’s harder to spot errors. Take a small break, give rest to your eyes, and then proofread.

Making sure that you are in the right frame of mind. Tiredness, frustration, sadness, and anger, among other range of emotions, can hamper what we want to communicate. Just making sure we are positive or at least neutral.

Directly communicate with the person we mean to. In many organizations, communication channels are created with many needless people passing on the messages.

Communication is something that has a substantial impact on our personal and professional life. It has to be taken seriously. And always remembering some of the most successful and happy people in life are great communicators.*Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/a*

Problem-solving skills: Candidates should be able to evaluate complex situations, analyze data, and reach intelligent conclusions in order to deliver effective solutions.

Good attention to detail: As they say, the devil is in the detail. Candidates will be expected to work with large volumes of data, and they must have a keen eye for smaller details, errors, and flaws in the data to make sure your business is working with only the cleanest, most accurate data.

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―No man is an island‖. So the saying goes. Increasingly in the workplace, we all have to work with others in order to complete a project. Be it working in a team, or dealing with clients or suppliers, interpersonal abilities is a definite advantage and something employers always look for.The ability to build relationships with those around you under any circumstances, and the ability to inspire them to do what needs to be done is essential.

Theoretically, when someone is offered a job, there is a job description included in thecontract. In reality however, employees are not expected to stick to only what is under their job description.On the contrary, they are expected to get involved in other areas of the business, understand all the different steps, and offer help where necessary. At the end of the day, employers look for someone willing to try out different things, and wear multiple hats at the same time, deal with different projects and individuals, and provide more than one sole contribution at a time to the company.

Being self-confident exudes an aura that can convince those you work for (or with) that you know what you are doing. If you do not believe in yourself, your skills and abilities, then you cannot expect anyone else to believe in you. You need to be confident with yourself and ensure everyone sees you as someone that has the ability to pull through whatever situation comes your way.

Public speaking is a very crucial skill to have, which requires a lot of self-confidence, practice, and analysing of your audience. Even though it comes naturally to some people, it is definitely a skill that can be acquired, and it is a skill sought after by employers.

No matter how much you believe you are right about something, or that it may be more useful for your colleague to know exactly what you think, realise that not everyone reacts the same way to different styles of confrontation.It is important for individuals to know how and when to deal with various issues that may crop up in the working environment, whether they are dealing with clients, colleagues, or supervisors.

Integrity and well-founded moral values should be highly-respected in the work place.

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though many scandals appear with black sheep here and there, it is essential for employees to maintain their values and integrity at all costs. Honesty and sticking to your values will definitely repay in the long run. An untainted reputation after all is what will help you move up the career ladder. Employers always look for employees that are passionate about what they do and are very committed to their assignments. They need to be assured that their employees will keep at a problem until it is solved, and they will do what is necessary to complete all tasks.

Arriving at work on time and willingness to work and take responsibility are basic indicators of an employee’s commitment. These factors can show whether an employee is cut out for a specific role.

If a person demonstrates an attitude that is appreciative of feedback, it can be deduced that he/she is willing to learn. Irrespective of age and experience, everyone is constantly learning at the workplace, and one should always remain open to new information that can enhance their skills and abilities.

Jobs are constantly changing and evolving, and employees of all ranks should show that they are open to growing and learning, either by experiencing new situations, by training, or even by listening and learning from criticism.

Even if your job has nothing to do with mathematics, arithmetic, geometry, algebra, calculus, and statistics, basic knowledge of these may become necessary at some stage.

Refreshing your knowledge of mathematics often is an essential part of keeping your competitive advantage in the job market. Statistics in particular may come in handy, as manya time you might need to produce some graphs and figures by analyzing quantitative data.

Being analytical, but also having strong research skills, differentiates one employee from the other. It demonstrates your determination, your ability to assess different scenarios, and your commitment to be 100% sure before giving an answer to your employer. It could mean the difference between a badly thought out idea and something that may gain the company a huge profit. As much as you think a question/problem presented to you is a piece of cake, be very wary of giving a rushed answer. Take the time to analyze the situation, think of all possible scenarios, and if possible ask for some time to go and do some research to find out more.

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***Power BI for the Technology Industry Convert*** *Data into Insights with help of Power BI*

Access your data easily on any device and get a 360-degree view of the health of your company. Power BI is a complete package of solutions tailored for the digital business world. From better team collaboration to interactive reports, data management, and predictive analysis – Power BI is the perfect intelligence tool for your business. The augmented growth of data in today’s business landscape undoubtedly demands a reliable tool to manage heaps of data and reports efficiently. Power BI reconstructs the process instances step-by-step, even if they are from multiple sources, and helps you cut out unnecessary steps, get accurate results to interpret and act on, and reduce costs.

Power BI’s advanced business intelligence and data modeling capabilities offer businesses the power of predictive analytics to compete in today’s digital world. With features to generate historical data

(past) and analyze current market trends and financial graphs, enterprises could easily prepare for the future.

Power BI’s

Predictive analytics – use of historical data, patterns, and ML techniques to predict future outcomes and



Prescriptive analytics – uses data and goes in-depth into the potential results of specific actions capabilities have significantly helped enterprises to arrive at better business decisions.



**Connect to Data**

*Bring in your data from different Data*

*Sources*

*-*

*be it on*

*-*

*premise or cloud data.*

Hundreds of Database Connectors

Data Sources added on regular basis

**Transform, Shape & Model Data**

*Get the connected data from various sources to work together without the need to flatten data.*

Data Transformation

Connects various Data Sources Data Model Optimization

**Reports**

*Gain deeper insights into your data with rich interactive and meaningful reports.*

Data Visualization

Quick Business insights

Drill down functionality

Real-time Goal Monitoring

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**QUALITY THOUGHT**

# NYKAA SALES

**POWER BI**

**N.Ramakrishna-B.com Computers 2-214250-K2110850**

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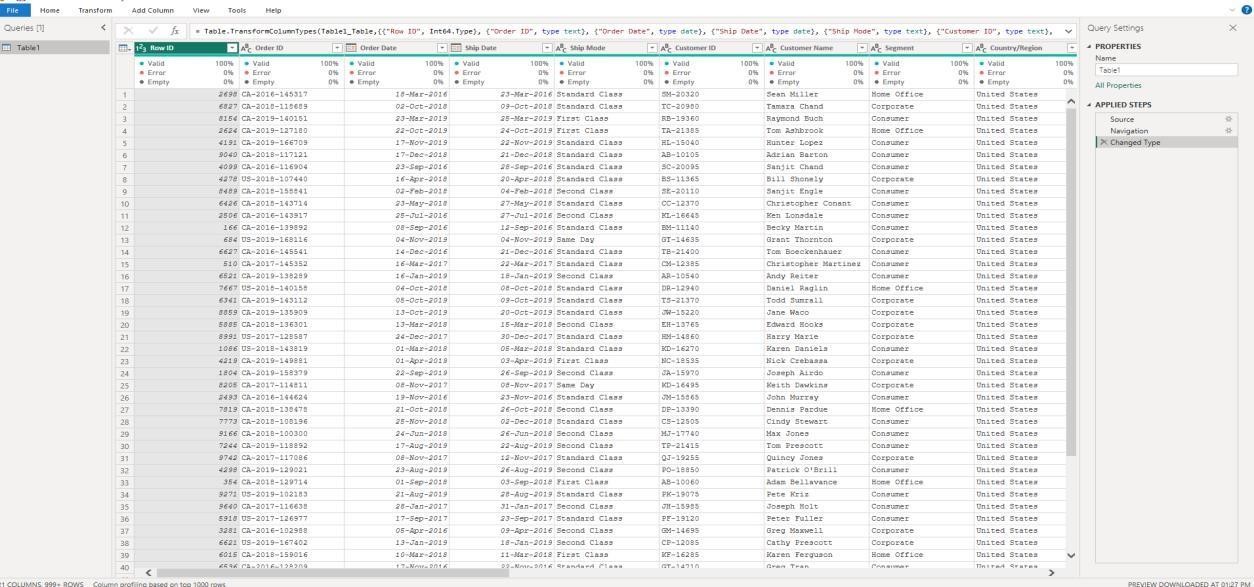
## NYKAA SALES ANALYSIS

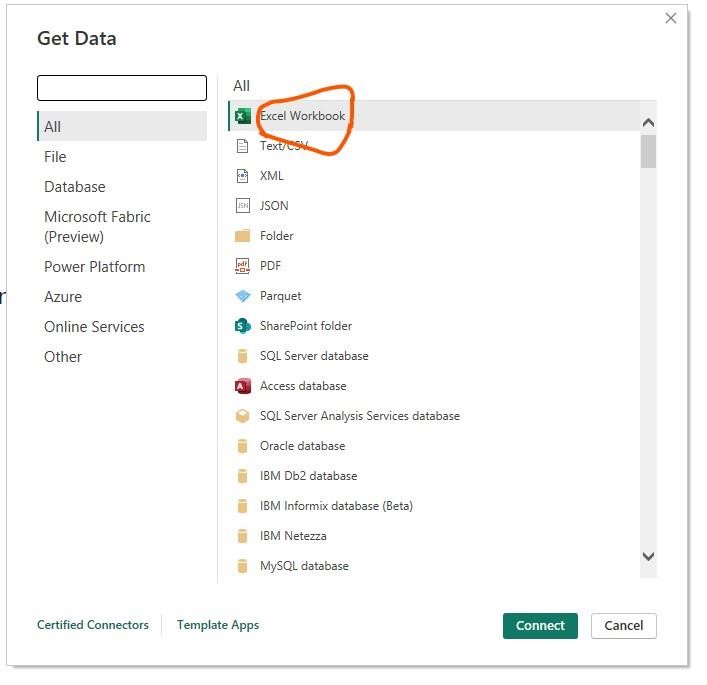
**Objective:** The Power Bi Desktop Report on the project title of NYKAA SALES ANALYSIS support during the data collection process and active participation in project activities .

### Visualization Of The Data

To start analyzing the data we need a power bi dashboard for the visualization.

To get the data I have selected the “excel workbook” and loaded the data from the “excel sheet “ .



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There is the data about “NYKAA SALES ANALYSIS” After selecting the data go to the ‘HOME’ and select the option “transform data” then it will take to the power query.

After changing there is an option in ‘HOME’, “close and apply” click on it.

Then the Canvas Background is opened, then we can select our own color to design it.

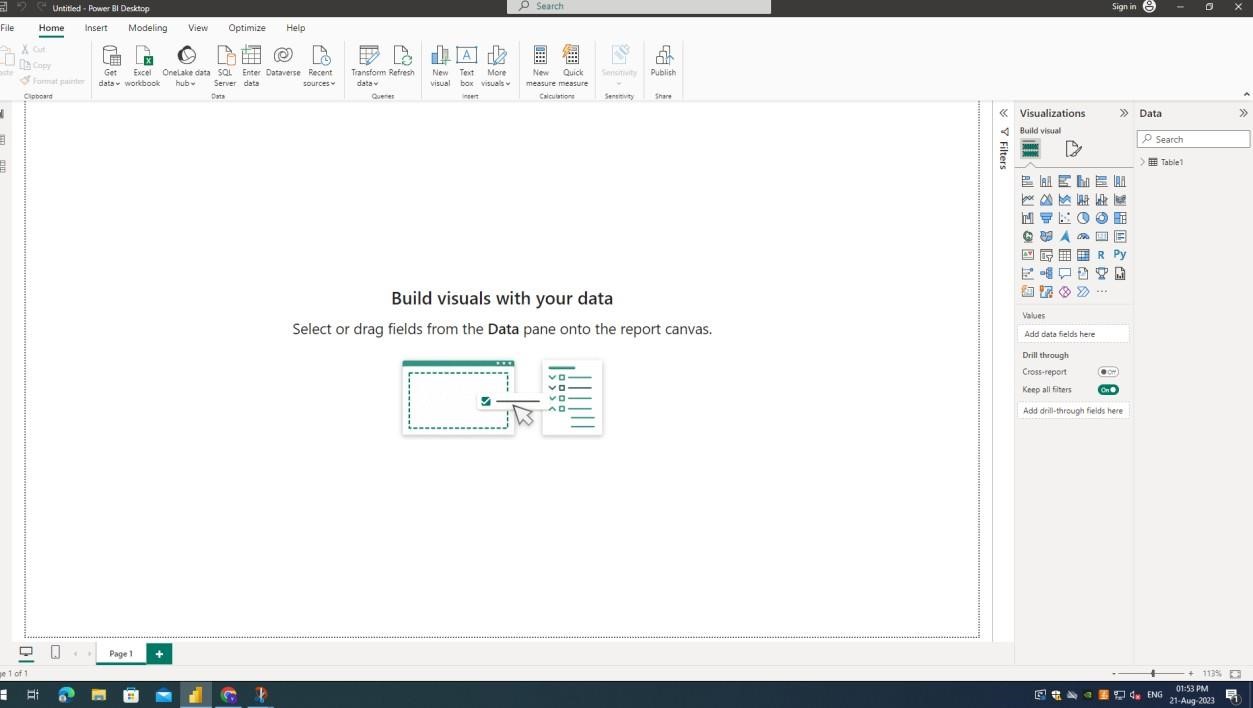
Now we can create an impressive dashboard with the help of data .

Here I have selected it as shown in the fig above

So here I am having the data as per my information, now I will create a dashboard .

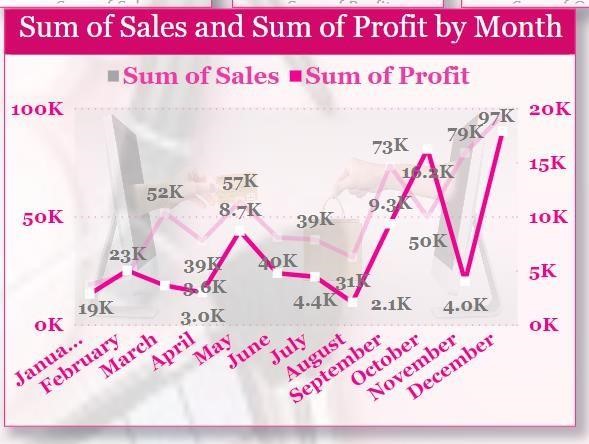
48

### WATERFALL CHART





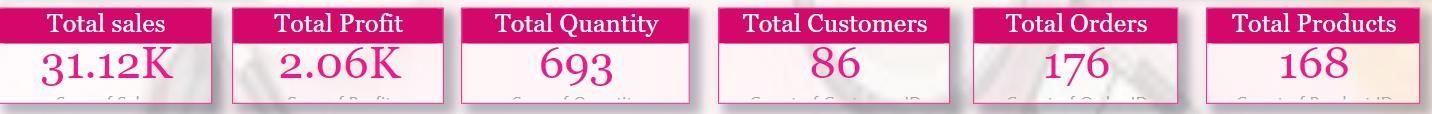
I have use waterfall chart to represent the sum of sales by year and category on X-axis year and category was taken and it show year and category sales and it was shown bar if the sales increase it show the bar in green color and if the sales was decrease it show in red color and others shown in pink color  YLINE CHART



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I have used a line chart to show sales, profit by month wise on x- axis months was taken. And on y-axis sales and on another y-axis profit was taken by using these segments. I have shown the sum of sales and sum of profit by month in line chart

CARDS CHART

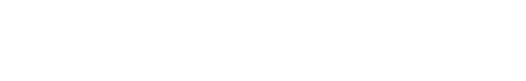
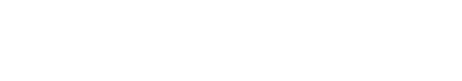


In my dashboard the cards chart was used to show the total sales, total profit, total quantity, total customers, total orders, total product. And I have used a slicer chart when the slicer chart is used the values will change as per region, year, month. Then the total sales, total profit, total quantity, total customers, total orders and total products value will change in cards chart

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In gauge chart the target was fixed for sales by using the gauge chart the target was shown for sales by month wise, year wise and by region wise also

MULTI ROW CARD



GAUGE CHART



By using a multi row card. I have taken the top five states by profit and top five customers by sales was shown in multi row card

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SLICER CHART



The slicer chart was taken to show two elements one is region and another one is year. In region the total sales, quantity, customers, products was in when we click on region it displays the option like east, west, north like that when click on any one it shows the total sales, quantity, customers, products was shown. Like that only again i have taken another slicer and in that slicer chart i have taken four years 2016-20019 by clicking on that it will displays option if we select any one option it will display the total sales, quantity, product,target also

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SLICER CHART

By using Slicer Chart I have selected month element by clicking on the any month it will display total sales,

Quantity , Products , Customers and Target



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***Student Self Evaluation of the Short-Term Internship***

**Student Name: N. RAMAKRISHNA Registration No:K2110850**

**Term of Internship: From: 12-07-2023 To :31-08-2023**

**Date of Evaluation:31-08-2023**

**Organization Name & Address: Quality thought Pvt.Ltd, Vijayawada.**

**Please rate your performance in the following areas:**

**Rating Scale: Letter grade of CGPA calculation to be provided**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Oral communication | 1 | 2 | 3 | 4 | 5 |
| 2 | Written communication | 1 | 2 | 3 | 4 | 5 |
| 4 | Interaction ability with community | 1 | 2 | 3 | 4 | 5 |
| 5 | Positive Attitude | 1 | 2 | 3 | 4 | 5 |
| 6 | Self-confidence | 1 | 2 | 3 | 4 | 5 |
| 7 | Ability to learn | 1 | 2 | 3 | 4 | 5 |
| 8 | Work Plan and organization | 1 | 2 | 3 | 4 | 5 |
| 9 | Professionalism | 1 | 2 | 3 | 4 | 5 |
| 10 | Creativity | 1 | 2 | 3 | 4 | 5 |
| 11 | Quality of work done | 1 | 2 | 3 | 4 | 5 |
| 12 | Time Management | 1 | 2 | 3 | 4 | 5 |
| 13 | Understanding the Community | 1 | 2 | 3 | 4 | 5 |
| 14 | Achievement of Desired Outcomes | 1 | 2 | 3 | 4 | 5 |
| **15** | **OVERALL PERFORMANCE** | **1** | **2** | **3** | **4** | **5** |

**Date: Signature of the Student**

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***Evaluation by the Supervisor of the Intern Organization***

Student Name: N.RAMAKRISHNA Registration No:K2110850

Term of Internship: From: 12-07-2023 To :31-08-2023

Date of Evaluation: 31-08-2023

Organization Name & Address: Quality thought Pvt.Ltd, Vijayawada.

Name & Address of the Supervisor with Mobile

Number :G.MADHURI MCA

Please rate the student’s performance in the following areas:

Please note that your evaluation shall be done independent of the Student’s self- evaluation

Rating Scale: 1 is lowest and 5 is highest rank

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Oral communication |  | 1 | 2 | 3 | 4 | 5 |

2 Written communication 1 2 3 4 5

**Date: 55 Signature of the Supervisor**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 Proactiveness | 1 | 2 | 3 | 4 | 5 |
| 4 Interaction ability with community | 1 | 2 | 3 | 4 | 5 |
| 5 Positive Attitude | 1 | 2 | 3 | 4 | 5 |
| 6 Self-confidence | 1 | 2 | 3 | 4 | 5 |
| 7 Ability to learn | 1 | 2 | 3 | 4 | 5 |
| 8 Work Plan and organization | 1 | 2 | 3 | 4 | 5 |
| 9 Professionalism | 1 | 2 | 3 | 4 | 5 |
| 10 Creativity | 1 | 2 | 3 | 4 | 5 |
| 11 Quality of work done | 1 | 2 | 3 | 4 | 5 |
| 12 Time Management | 1 | 2 | 3 | 4 | 5 |
| 13 Understanding the Community | 1 | 2 | 3 | 4 | 5 |
| 14 Achievement of Desired Outcomes | 1 | 2 | 3 | 4 | 5 |
| **15 OVERALL PERFORMANCE** | **1** | **2** | **3** | **4** | **5** |

**EVALUATION**

#### Internal Evaluation for Short Term Internship (On-site/Virtual)

**Objectives:**

* To integrate theory and practice.
* To learn to appreciate work and its function towards the future.
* To develop work habits and attitudes necessary for job success.
* To develop communication, interpersonal and other critical skills in the future job.
* To acquire additional skills required for the world of work.

**Assessment Model:**

* There shall only be internal evaluation.
* The Faculty Guide assigned is in-charge of the learning activities of the students and for the comprehensive and continuous assessment of the students.
* The assessment is to be conducted for 100 marks.
* The number of credits assigned is 4. Later the marks shall be converted into grades and grade points to include finally in the SGPA and CGPA.
* The weightings shall be:

o Activity Log 25 marks o Internship Evaluation 50 marks o Oral Presentation 25 marks

* Activity Log is the record of the day-to-day activities. The Activity Log is assessed on an individual basis, thus allowing for individual members within groups to be assessed this way. The assessment will take into consideration the individual student’s involvement in the assigned work.
* While evaluating the student’s Activity Log, the following shall be considered –
  1. The individual student’s effort and commitment.
  2. The originality and quality of the work produced by the individual student.
  3. The student’s integration and co-operation with the work assigned.
  4. The completeness of the Activity Log.
* The Internship Evaluation shall include the following components and based on Weekly Reports and Outcomes Description a. Description of the Work Environment.
  1. Real Time Technical Skills acquired.
  2. Managerial Skills acquired.
  3. Improvement of Communication Skills.
  4. Team Dynamics
  5. Technological Developments recorded.

#### MARKS STATEMENT

**(To be used by the Examiners)**

**INTERNAL ASSESSMENT STATEMENT**

**Name Of the Student: N.RAMAKRISHNA**

**Programme of Study: NYKAA SALES REPORT**

**Year of Study: 2021-2024**

**Group: II B.COM(COMPUTER’S)**

**Register No/H.T. No: K2110850**

**Name of the College: KAKARAPARTI BHAVANARAYANA COLLEGE University: KRISHNA UNIVERSITY**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Sl.No*** | ***Evaluation Criterion*** | ***Maximum***  ***Marks*** | ***Marks Awarded*** |
| 1. | Activity Log | 25 |  |
| 2. | Internship Evaluation | 50 |  |
| 3. | Oral Presentation | 25 |  |
|  | GRAND TOTAL | 100 |  |

|  |  |
| --- | --- |
| Date: | **Signature of the Faculty Guide**  **Certified by** |
| Date: Seal: | **Signature of the Head of the Department/Principal** |