1. Discuss the following AWS services in brief.

1) EC2

Elastic compute cloud is a web service that provide secure, resizable compute capacity in the cloud.

2) Elastic Beanstalk

Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with java, PHP, Node.js, Python

3) IAM

Identity and access management is a framework of technologies that falicitates the management of electronic or digital identities.

4) ELB

Elastic Load Balancing is automatically distributes incoming application traffic and scales resources to meet traffic demand.

5) S3

S3 stands for Simple Storage Service offered by AWS that provides object Storage through a web service interface.

6) EBS.

AWS Elastic Block store is Amazon's block-level storage solution used with the EC2 cloud service to store persistent data.

7) Fsx for Lustre

Fsx for Lustre provides fully managed shared storage with the scalability and performance of the popular Lustre file system.

8) Glacier

Glacier is a low-cost cloud storage service for data with longer retrieval times offered by AWS.

9) Sagemaker.

Sagemaker enables developers to create train and deploy machine-learning models in the cloud.

10) Rekognition

→ Rekognition image use deep neural network model to detect and label thousands of object and scenes in your images and we are continually adding new lable and facial recognisation feature to the service. With rekognition image you only pay for the images you analyse and face metadat you store.

11) SNS

-> Amazon simple Notification Service is a manage service that provide message delivery from publishes to subscribers. publisher communicate asynchronously with subscribers by sending message to a topic which is a logical access point and communication channel.

12) SES

-> Amazon simple Email service lets you send transactional Email, marketing, message or any other type of high quality content to your customer.

13) Lambda in aws

-> Aws Lambda is a serverless compute service that runs your code in response to events and automatically manage the underlying compute resource for you you can uses aws aws Lambda to extend other aws service with custom log to create your own backend services that operate at aws scale, performance and security

14) RDS

→ Amazon Relational Database service is web service that makes it easier to set up oprat°. and scale a relational database in the aws cloud. It provides cost-efficient, resizable capablity for an industry Standard relational database and manages common database administration task.

15) Cloud 9

→ Cloud9 IDE is an online IDE, Publise as open source version 2.0 until version 3.0. It support multiple programmig langauge.

16) Cognito.

→ Amazon cognito is a simple user identity and data syncronization service that helps you securly manage and syncronize app data for your users across their mobile device.

17) VPC

→ Amazon virtual privat cloud gives you full control over your virtual networking envirment including resource placement, conectivity and security

18) Route 53

→ Amazon Route 53 is higely available and scalable cloud domain name system. Web service it is designed to give developers and busniess an extremly reliable and cost effective way to route end users to internet applications.

Assignment :2

1) Create EC2 instace

→ An Ec2 instance is nothing but virtull server in Amazon Web service terminology. It stand for Elastic compute cloud. It is web service, Whes can aws Subscriber can request and provision a compute server in aws cloud.

→ An on-demand EC2 instance is an offering from aws where the subscribe users can rent the virtual server per hour and use it to deploy his her own application.

→ The instance will be change per hour with difference rate based on the type of the instans chosen. AWS provides multipie instance types for the respective business needs of the us

(2) Connect to windows instance.

→ You can connect to Amazon EC2 instance create from most window Amzon machine image using Remote Desktop. Remote desktop use the Remote Desktop protocol to connect and use your instance in the same way you use a computer sitting in front of you. it is available on most editions of windows and is also available for mac.os.

→ the licence for windows server operating system allows two simultaneous ~~remote~~ remote connection for administrative purpose. The linse for windows serves is included in the price of your windows instance. if you require more than two simultaneous remote connection. you must purchase a remote.

(3) connect to linux instance.

1) In terminal window, use the ssh command to connect to the instance. You specify the path and file name of the privat key. the username for your instance and the public DNS Name or IPV6 address for your instance. for more information- about how to find private key the user name for your instn. find private key user instn. and the DNS name or ipv6 address for instn.

(2) Verify that fingerprint in the security alert matches the fingerprint that you previously obtained in : if these fingerprints don't match Someone might be attempting a 'man-in-the middle' attack. If they match continue to the next step.

(3) Enter 'yes'.

G-4 Create S3 bucket.

step

(1) sign in to the aws management console and open the amazon S3 console.

(2) Choose create bucket.

(3) In the bucket, enter DNS compliant name for your bucket.
The bucket name must

- -> Be unique across all the of Amazon S3
- -> Be Between 3 and 63 character long
- -> Non contain uppercase character.
- -> start with lowercase later or number.

(4) In Region, Choose the AWS region where you want want the bucket resing.

(5) Under object ownership, to disable or enable ACL and control ownership of object and uploaded your bucket choose one of the.

(6) In Bucket setting for Block Public Acess, choose the block public Access setting that you want to apply to the bucke.

(7) (optional) if you want to enable S3 object lock,

(8) Choose create bucket.

Q 5 Send Email SES

-> There are several ways that you can send an email using Amazon SES

Step-1 Enter the Amazon SES console

Step 2: verify own Email address

Step-3 Request Removal of Amazon SES restriction

Step-4 Configure your Application to use Amazon SES

Q-1 open source iaas Software (any one with Architecture)

→ open stack.

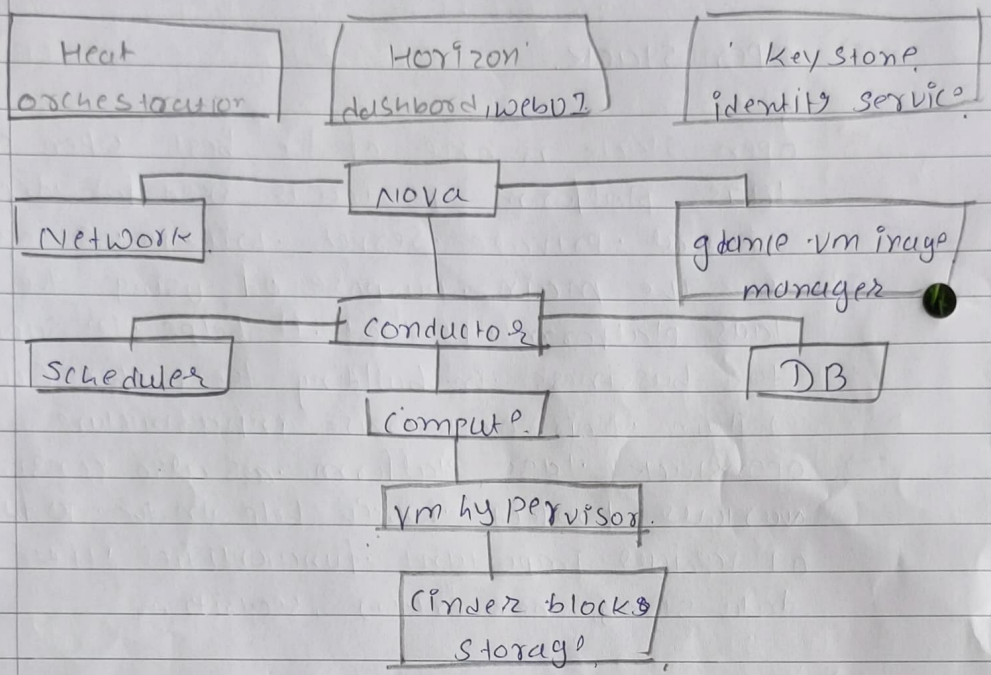
→ open stack is one of the best open sorce iaas platform which is used for deploying virtual private servers with in a data cent.

→ The main purpose of using the openstack iaas platform is that it helps in supporting the bussiness in building their own cloud service within their on-premise infrastructure.

→ openstack iass platform also consist of various project which help in the functioning of various important functionalities like computing data storag, networking, security.

→ The latest relese of open stack iaas platform also consist of data processing capabilites.

Open stack
main service & component.



Q-2 Open source · pass software

Apache Stratos

-> Apache stratos enable Paas solution, provide support across a number of cloud infrastruct

-> Proper utilization of resource.

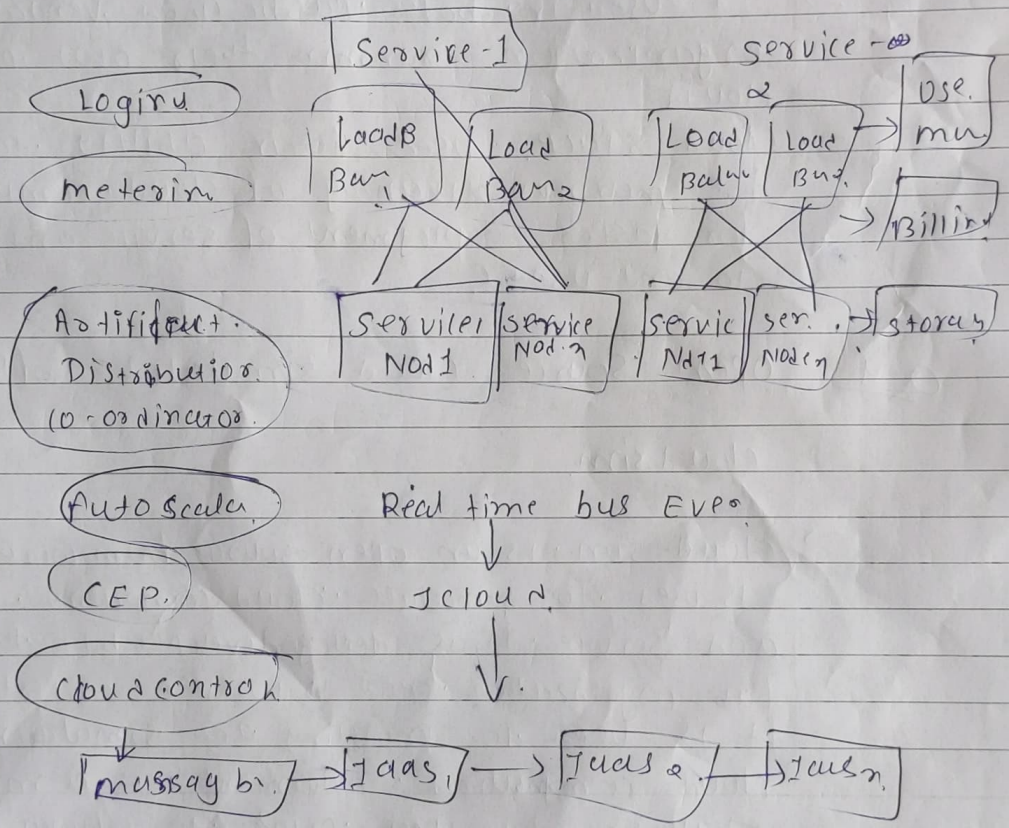
-> managing the monitoring and billing part for your applica.

-> providing adequate scability meture with load balancing

→ can easily migrate from one cloud infrastructure to another incase demand increase.

→ stands apart from other pass solution owing to its multi tenancy capability, with both container and in-container.

→ using various metrics from load balancer and a cartridges it is able to predict future



Q3 open source saas software.

→ cloud stack.

→ It is open source cloud computing software. It helps in creating and managing infrastructure and cloud services.

→ It support various hypervisors like vmware xen cloud perform and microsoft Hyper-V

→ It used in both public cloud vendors and organization running their own private cloud

→ Cloud stack users their ability to exhaust the maximum advantage of cloud computing for fastest deployment of service and system to end-users.

Q-4 open source cloud simulator software.

→ cloudsim.

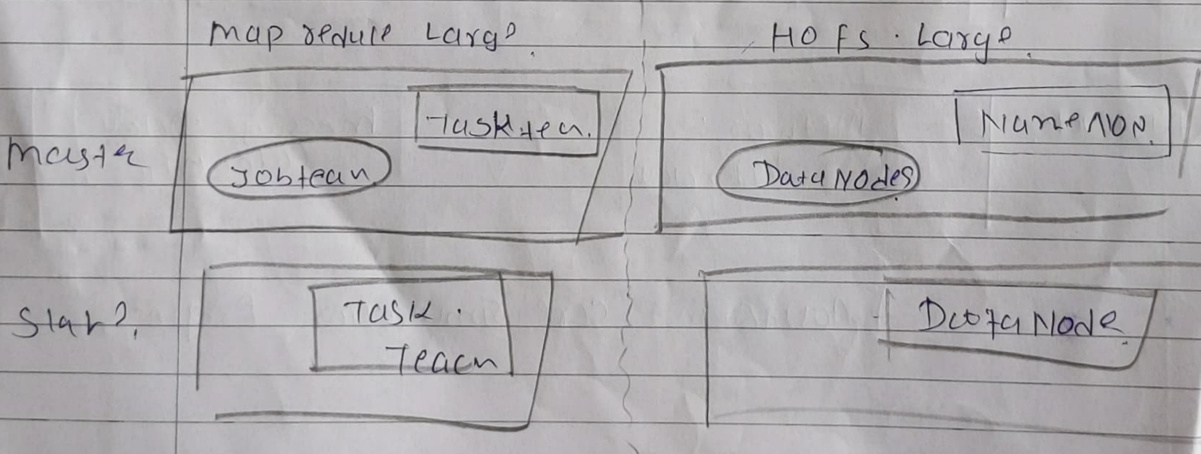
→ cloud sim is an open source framework which is used to simulate cloud computing infrastructure and service. It is developed by the cloud lab organization and is written entirely in java. It is used for modeling and simulating a cloud computing enviornment as a means for evaluating hypothesis prior to software development in order to reproduce test and result.

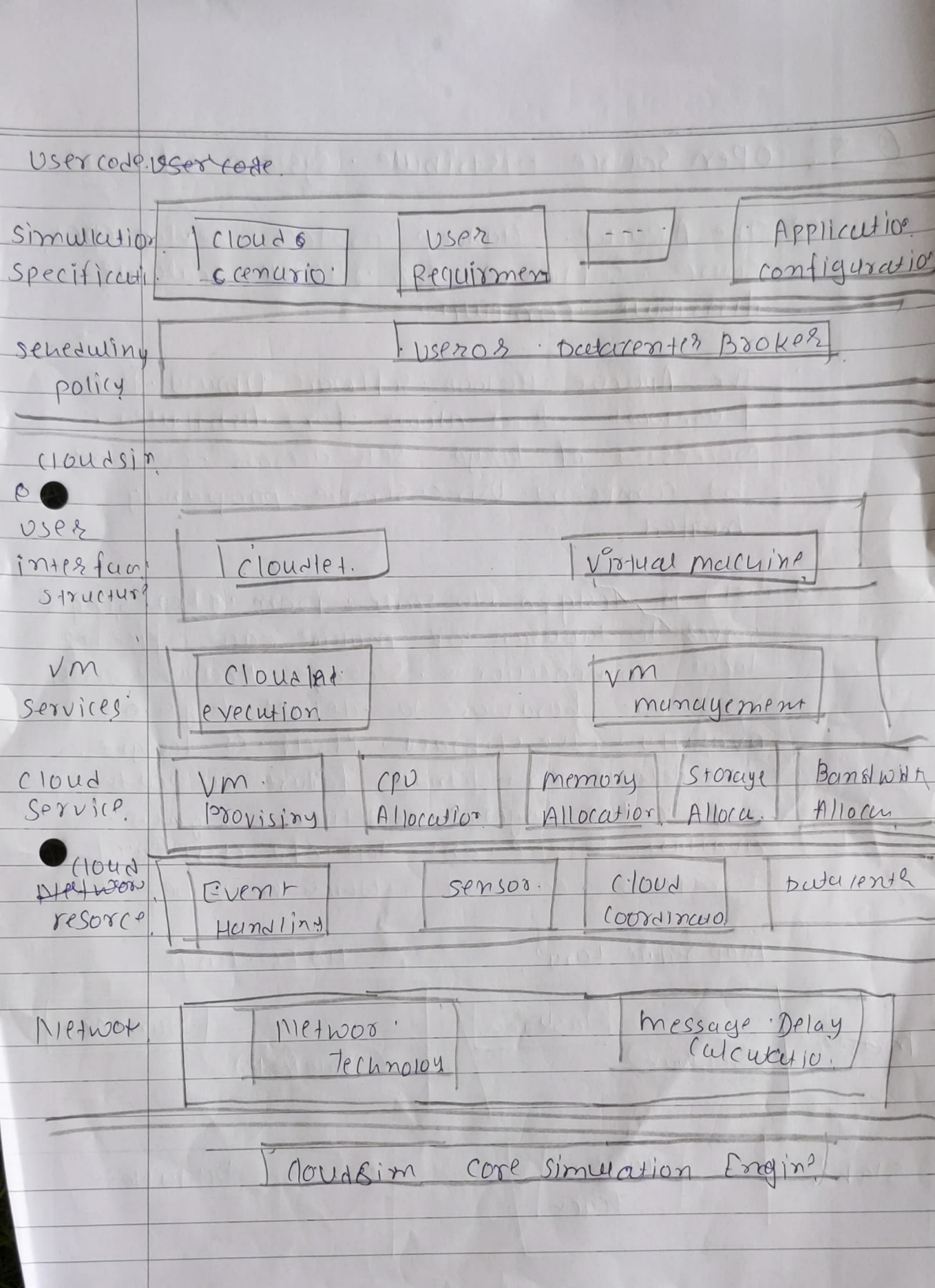
Q-5 Open Source Distribute System Software.

→ The Apache Hadoop project, develop open source software for reliable, scalable, distribute computing.

→ The Apache Hadoop Software library is a framework that allows for distributed processing of large sets accross custom by componing using simple programing model.

→ It is designe to scale from single server to thousand of machine, each offering local computation & storage. Rather than rely on hardware to deliver high availability, the library itself is designe to detect and handle failure at the application layer, so delivery a highly available service on top of a cluster of computer, each of which may be to fail.




User code
Simulation Specification
Cloud scenario
User Requirement

Application configuration
scheduling policy
Users & Datacenter Brokers
CloudSim
User interface structure
Cloudlet
Virtual machine
VM Services
Cloudlet execution
VM management
Cloud Service
VM Provising
CPU Allocation
memory Allocation
Storage Allocation
Bandwidth Allocation
Cloud resource
Event Handling
sensor
Cloud Coordinator
Datacenter
Network
Network Technology
Message Delay Calculation
CloudSim core simulation Engine