**AWS Assignment 3**

1. Describe the significance of AWS.

AWS enables you to select the operating system, programming language, web application platform, database, and other services you need,This eases the migration process for existing applications while preserving options for building new solutions

1. Explain what EC2 is?

An Amazon EC2 instance is a virtual server in Amazon's Elastic Compute Cloud (EC2) for running applications on the Amazon Web Services (AWS) infrastructure. AWS is a comprehensive, evolving cloud computing platform; EC2 is a service that enables business subscribers to run application programs in the computing environment. It can serve as a practically unlimited set of virtual machines (VMs).

Amazon provides various types of instances with different configurations of CPU, memory, storage and networking resources to suit user needs. Each type is available in various sizes to address specific workload requirements.

1. Explain the working of S3 and list various types of instances.

Within the S3 service, users create ‘Buckets’. Buckets are used to store object based files and can be thought of as folders. When Buckets are created users specify which region the Bucket should be deployed in. Considerations here are usually cost, expected latency and any security or governance related policies.

Each object uploaded to an S3 bucket is independent in terms of its properties and associated permissions (who can and cannot access the file(s) for example). When individual or groups of files are uploaded to buckets, users specify the type of S3 storage to be used for those specific objects (RRS, IA or standard S3).

With Lifecycle Management S3 users can design lifecycle policies, automatically moving objects from one storage tier to another after a set number of days. These policies can be defined based on when the object was first created or when it was most recently accessed.

Below is various types of S3 instances:

* S3 Standard
* S3 Intelligent-Tiering\*
* S3 Standard-IA
* S3 One Zone-IA†
* S3 Glacier Instant Retrieval
* S3 Glacier Flexible Retrieval
* S3 Glacier Deep Archive

1. Explain the importance of IAM in AWS.

Amazon Web Services (AWS) cloud provides a secure virtual platform where users can deploy their applications. Compared to an on-premises environment, AWS security provides a high level of data protection at a lower cost to its users. There are many types of security services, but Identity and Access Management (IAM) is one the most widely used. AWS IAM enables you to securely control access to AWS services and resources for your users. Using IAM, you can create and manage AWS users and groups, and use permissions to allow and deny their access to AWS resources.

efore AWS or IAM, passwords were often shared in corporate environments in a very insecure manner: over the phone or through email. Often only one admin password existed, which was commonly stored in a set location, or there was only one person who could reset it, and you needed to call the person to ask for the admin password over the phone. That was not secure at all, because anybody could walk by and eavesdrop and then walk away with the password and access to your system and information.

Today we have a more secure communication tool: a third-party application called Slack, which is hosted on AWS. It helps people to share a document through the application so that eavesdropping is eliminated.

You can use IAM to securely control individual and group access to your AWS resources. You can create and manage user identities ("IAM users") and grant [permissions](https://aws.amazon.com/iam/details/manage-permissions/) for those IAM users to access your resources. You can also grant permissions for users outside of AWS ( [federated users](https://aws.amazon.com/identity/federation/)).