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# Assignment 1

There are various Services in cloud computing.

1. Software as a Service (SaaS)- It is a software delivery model in which a third-party provider hosts applications and makes them available to customers over the internet. this allows customers to access software applications without having to install or maintain them on their own computers or servers.

SaaS is easy to implement, easy to update and debug, and can be less expensive than purchasing multiple software licenses for multiple computers.

In a SaaS model, customers typically pay a subscription fee to access the software. The provider is responsible for managing the infrastructure, security, and maintenance of the software, while customers can focus on using the software to meet their business needs.

Examples of SaaS applications include customer relationship management software, project management tools, accounting software, and email marketing platforms.

2. Platform as a Service (PaaS) – It is a cloud computing model that provides a platform for building, testing, and deploying software applications. It is provides a software development platform over the web. Specifically, it allows developers to concentrate on software creation without concern for storage and infrastructure.

Platform as a Service eliminates the expense and complexity of evaluating, buying, configuring, and managing all the hardware and software needed for custom-built applications.

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Examples of PaaS providers include Google App Engine, Microsoft Azure, and Heroku.

3. Infrastructure as a Service (IaaS) - It is a cloud computing model that provides virtualized computing resources over the internet. IaaS allows organizations to rent IT infrastructure, such as servers, storage, and networking, from cloud providers rather than investing in and managing their own physical hardware.

In an IaaS model, the cloud provider offers a virtualized infrastructure that can be accessed and managed through a web-based interface or APIs. This infrastructure can be customized to meet the specific needs of the organization, and resources can be scaled up or down as needed.

Examples of IaaS providers include Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP).

Infrastructure as a Code (IaaC) - It is a practice of managing IT infrastructure using code instead of manual processes. In IaaC, infrastructure is defined in a code format, such as YAML or JSON, which can be version-controlled, tested, and deployed like any other software application. IaaC enables organizations to automate the provisioning and management of their IT infrastructure, making it more efficient and scalable.

Examples of IaaC tools include Terraform, CloudFormation, and Ansible. These tools enable developers to write infrastructure code and deploy it to cloud providers such as AWS, Microsoft Azure, or Google Cloud Platform.