**CLOUD:**

* It delivers the computing resources such as networking services,storage services,servers,database services etc.We can access it through internet.
* It will provide the high security for our data.
* We can access the resources securely from anywhere in the world.
* There are multiple cloud providers are available such as AWS,AZURE,GCP.
* We need to pay the amount for how much time we want use the resources in cloud(pay as you go model).

**Difference between on premise and cloud :**

* In on premise everything will be maintained and managed by their own like Land,building,networking,power supply,cooling systems,hardware,servers.
* Data will be very less security in on premise compared to cloud.

**Types of cloud computing:**

1. **Service model**

* IAAS
* PAAS
* SAAS

2)**Deployment model**

* Public cloud
* Private cloud
* Hybrid cloud
* Community cloud

**IAAS:**

It stands for infrastructure as a service in which cloud can manage the infrastructure like servers ,virtualization,storage ,networking and user can manage o.s,runtime,middleware,data,application.

Example: Servers ,storage service

**PAAS:**

* It stands for platform as a service in which cloud will manage everything except data,application.
* It will provide the platform to run ,manage,build the application.

Example:

Lambda

**SAAS:**

* for software as a service in which cloud will manage everything like infrastructure including It stands application just user can use the service.

Example:

Office365

**Deployment model:**

**Public cloud:**

It is open to all everyone can access the resources from anywhere and it will managed by third parties.In this cloud data will be less security than private cloud.

Example:Aws,Azure,Gcp

**Private cloud:**

It is managed by own particular organization.users who within their organization can access their resources.Data will very secure.

Example:

IBM cloud

**Hybrid cloud:**

It is combination of both public and private cloud.If resources in public everyone can access it.

**Software Development Life Cycle:**

It is a process of developing the application based on client or customer requirenents.

There are multiple stages

* Planing
* Defining
* Designing
* Building
* Testing
* Deployment

**Planing:**

To gather the information about what all resources are required for this project.

**Defining:**

In this stage prepare the documentation regarding this project and get approval from client.

**Designing:**

In which developers develop the code.

**Build:**

Compilation will be done which meansDevelopers write the code in programming languages like python,java,c++ etc.This language will be converted into machine language and generate the artifactory .

**Testing:**

In this stage find the bugs or errors in the code and check whether the code is working properly or not.

**Deployment:**

After test the code final step is deploy the application on production environment.

Delivering the application to the customers or end users.

**Water Fall Model:**

It is a traditional model in which we can’t get feedback from client immediately until complete the entire process.Incase if application not working properly after completion of entire process we need to check each step from starting to ending it is a time consuming process.

**Agile Model:**

In this model we can get feedback from each step immediately.Application will be developed in the form of sprints in this model.Breakdown the application into smaller chunks.

**Devops:**

It is combination of development and operations team.It will improve the delivery process of application and automation.

There are multiple tools are used to automate the entire process from bulild to deployment.

CI/CD tool:Jenkins

Containerisation tool:Kubernetes,Docker

Version control tol:Github

Confiuration management tool:Ansible,cheff

Infrastructure tool:Terraform