**Azure fundamental assignment 2**

* **What is serverless computing?  
  Ans -** Serverless computing is for the developers who just want to focus on writting the code and building the applications faster by eliminating the need for them to manage the infrastructure. Here the cloud service providers itself handles the scaling, provisioning for the developers. This approach is helpfull as the developers can increase thier focus on business logic and deliver more value to the core of the business.
* **Explain Azure subscriptions, management groups and resources.  
  Ans -**i) Azure subscriptions - Azure subscriptions are usefull for the authentication and authorization for the utilization of resources. The subscription is an agreement between an organization and Microsoft to use resources for which charges are either paid on a per license basis or a cloud based basis.ii) Management Groups - If the organization has many subscriptions then to effieciently handle or access them we can use Management Groups. All the subscriptions can be organized into Management Groups. This subscriptions within the group can inherit the conditions paplied to the management group. For example, we can apply the policies to a management group that limits the region available for virutal machine(VM).iii) Resources - Azure resources are the instances of the various cloud services that you can create on Azure. It can consit of Virtual Machines, Storage, Database etc. All this resources can then be handled using Azure Resource Group.
* **Explain Azure regions, availability zones, and region pairs.  
  Ans -**i) Azure Regions - Azure regions features the datacenters deployed within a latency defined perimeter. They're connected through dedicated regional low latency network. This is important to provide the best possible performance and security.ii) Availability Zones - This are the physically separate locations within each Azure region that are tolerant to local failures. As the failures can range from software and hardware failures to events such as earhquakes, floods, a minimum of three separate availability zones are present in all availability zone-enabled regiions.iii) Region Pairs - An azure region pair is a relationship between 2 azure regions within the same geographic region for disaster recovery purposes. If one of the regions were to experience a disaster or failure, then the services in that region will automcatically failover to that regions secondary region in the pair. Azure regions are not just visual concept here the pairs are directly connected together and offer multiple benefits when utulized together in the same distributed system.
* **Explain Azure Resource Manager, Azure subscription and management group.  
  Ans -**i) Azure subscriptions - Azure subscriptions are usefull for the authentication and authorization for the utilization of resources. The subscription is an agreement between an organization and Microsoft to use resources for which charges are either paid on a per license basis or a cloud based basis.ii) Management Groups - If the organization has many subscriptions then to effieciently handle or access them we can use Management Groups. All the subscriptions can be organized into Management Groups. This subscriptions within the group can inherit the conditions paplied to the management group. For example, we can apply the policies to a management group that limits the region available for virutal machine(VM).iii) Azure Resource Manager - The cloud resources are grouped into the resource groups and this resource groups are then managed by the Resource Manager. Here the resource manager is helpful to manage the infrastructure through declarative templates rather than through scripts etc.
* **Provide overview of Azure Compute Services.  
  Ans -** Azure compute services are the hosting services responsible for hosting and running the application workloads. These includes the Azure VM, Azure container, Azure App Service, Azure Batch so on.i) Azure VM - It is an on-demand, scalable computing resource. There is no need to buy any physical hardware and bear its mainteneace cost; we have the flexibility of virutalization.ii) Azure Container Service - The model container based deployements can be handled using container service. We can choose between Docker Hub and Azure container registry to store your images and then deploy to any preferred target. Container service uses less space than VM and starts instantly hence speeding the process.
* **What is an Azure virtual machine and when to opt for an Azure virtual machines?  
  Ans -** It is an on-demand, scalable computing resource. There is no need to buy any physical hardware and bear its mainteneace cost; we have the flexibility of virutalization. If we want the full control over the hardware where we are hosting our web apps then in that case we can opt in for Azure Virtual Machines. In Azure VM we can use any operating system including the beta releases. Load balancing and auto scaling for multiple VM can be done. Network connectivity and configuration is also applicable for the VM.