**SectionA.Q1.**

In the python code a list is populated by generating a random number. Following conditions are applied for appending the list

* A random number must be in the range 1 to 10
* No repetition of numbers must happen in the list. If random number generated already exists in the list then avoid it
* List must contain only 10 members ie length of the list must be 10.

Finally the list is printed when the length is 10.

**SectionB.Q1** and **SectionB.Q1**

Please refer the python script shared

To remove the duplicate files the Linux command “uniq” also can be used

**uniq inFile.txt > outFile.out**

**SectionC. Q1**

*What is the difference between a VM and a container? Give an example of each*

* Virtual machines and containers differ in several ways, but the primary difference is that containers provide a way to virtualize an OS so that multiple workloads can run on a single OS instance. Applications running in a container environment share a single OS. With VMs, the hardware is being virtualized to run multiple OS instances.
* VM virtualize the computer system while container virtualize the operating system only
* VM uses lot of system memory while containers require very less memory
* VM’s are useful when we require all of OS resources to run various applications where as Containers are useful when we are required to maximise the running applications using minimal servers.
* One Example for Virtual machines are Oracle VM Virtual Box. Another VM VMware Fusion give Mac users the power to run Windows on Mac. Some others are KVM, Xen while examples of containers are: RancherOS, PhotonOS, and Containers by Docker.

**SectionC.Q2**

*What are gocd, cfengine, ansible and puppet?*

All these are used for configuration management in DevOps

**GoCD** is an open-source tool which is used in software development to help teams and organizations automate the continuous delivery (CD) of software. It supports automating the entire build-test-release process from code check-in to deployment.

**CFEngine** is a configuration management and automation framework that lets you securely manage your mission critical IT infrastructure. Define the desired state and configuration of your IT infrastructure, and CFEngine will automatically ensure that it complies.

**Ansible** is an open source automation platform. It is very, very simple to setup and yet powerful. Ansible can help you with configuration management, application deployment, task automation

**Puppet** is a Configuration Management tool that is used for deploying, configuring and managing servers. Puppet ensures that all systems are configured to a desired and predictable state.

**SectionC.Q3**

*How does AWS charge for compute and storage?*

AWS charge as per the usage. With AWS you pay only for the individual services you need, for as long as you use them, and without requiring long-term contracts or complex licensing.  AWS pricing is similar to how you pay for utilities like water and electricity.  You only pay for the services you consume, and once you stop using them, there are no additional costs or termination fees.

**SectionD.Q2**

Verify that lastname and forname itself is parsed

Verify that there is a comma added between lastname and forname

Initially a data for a particular Article will be taken. Ie between <Article> and </Article>.Will check whether the author name and article number are coming correct in the table. For each article title number the authors in file are matching that shown in table.

Verify that second author information is not missed

Verify that when author name in column1 and header are same, the total number of articles by author is shown. For example Doe, John has authored 3 articles. So 3 is given in table.

**SectionD.Q3**

Time taken by the script should be looked. Verify that all the records in XML is in same format of the sample data.