**Cloud Computing Assignments**

**Instructions:**

1. ***Section 1 is Compulsory. All students will have to do it***
2. ***From Section 2, Pick any one topic***

## Section – 1 : Dockers:

Follow the instructions and capture the screen shot of the output & docker file

•Go to any directory of your choice and create a new folder called ‘custom-docker’

•Open Visual Studio Code [download at - https://code.visualstudio.com/]

•Open the folder ‘custom-docker’ from Visual Studio Code

•Create a new file called ‘dockerfile’

•Extensions -> Docker -> Install

•Copy the ‘dockerfile’ contents into the file

•Open Terminal (View -> Terminal)

**Create Dockerfile**

‘dockerfile’ contents

# First Layer - from which Docker Image to start with

FROM ubuntu:latest

# Run indicates execute the commands inside the container

RUN mkdir /vim

RUN apt update

# -y is used to avoid prompt to install or not

RUN apt install vim -y

# WORKDIR informs which container working directory

WORKDIR /vim

# Which command to run in container - any executable as start point

ENTRYPOINT ["/bin/bash"]

Docker execution commands [inside the terminal]

Command: docker build –t myubuntu .

[build custom image with tag called ‘myubuntu’. Dot indicates current location]

Command: docker images [to view the myubuntu image]

Command: docker run –it myubuntu

[Starts the container and places in /vim directory]

Command: pwd [/vim directory]

Command: vim

[check vim is installed; press escape-colon-q to exit]

## Section – 2 : Pick any one topic from the below

1. Using AWS lambda, write a program to monitor an S3 Uri. Whenever a user uploads data into the S3 storage, the program should capture the details. At the end of the day the program must send out an email to select users displaying the following information
   1. S3 Uri
   2. Object Name
   3. Object Size
   4. Object type

In addition to the above, the program should create a thumbnail and store it in the same uri in case the user uploads an image (.jpg/jpeg/png)

1. NEET Inc., a US based logistics corporation wants to host its core services on Amazon Cloud. The ERP application was built using Microsoft .NET platform and is provided as a SaaS solution for all NEET employees.

NIOS Inc, is the captive development centre for NEET, who manages the development & maintenance of the ERP application. The ERP application consists of the following artifacts.

* Core Application which is .Net based
* SQL Server for database
* Azure blob / S3 for storage of image and blobs
* REST API gateway for interfacing with the core application and mobile clients
  1. Assuming the application is deployed in Azure or AWS, provide the components that will be used.
  2. Compute the cost of using such services.
  3. What steps will be taken to ensure that the security is not compromised.

1. Use any relevant cloud Case study from your organization (Current/Past) where you have demonstrated cloud adoption / cloud enablement / cloud transformation efforts.
   1. Explain the challenges you faced, and the reason for moving to the cloud
   2. Provide the solution proposed
   3. Summarize the benefits post adoption