Introduction:

In this assignment we expect you to develop a gRPC application in Python. This assignment purpose is to test your skill set in Python programming, microservices etc and to give you a glimpse of the kind of work you would be doing once you join us.
Tasks:

- As part of the assignment you are expected to come up with an application that justifies the following requirements.
  1. Establishing a working gRPC client-server application by creating a server and client files and establishing a connection which runs locally.
  2. Developed application should contain a Machine Learning stack in it.

- If you are aware about gRPC or previously worked on its development then you are go, if you have not worked on gRPC before and have no prior knowledge than we request you go and have a look at the documentation and tutorials in the gRPC website which gives you detailed description with examples on how to develop gRPC application. Website: https://grpc.io/docs/quickstart/python/

- As part of the Machine Learning stack you should implement the ML stack as a server for a client to call. In the ML stack you should write a simple function which takes two images as input and compares the similarity of the given two images and gives the output a score. You are free to use any mathematical function to compare the similarity Eg: cosine similarity
  HINT: Convert the Images into vectors
  Use the img_to_vec.py provided python file to convert images to vectors

- After implementing the ML server create a client which takes 2 images as input and receives similarity score as a response.

- You need to have a proto file to generate 2 files containing request and response classes, Look into documentation if you have any queries or on how to generate the files

- If you use more than one approach to solve the problem, please do a quantitative comparative study as to why one approach works better than the other(s). If not i.e. if you have used only one technique, convince us as to why this technique would perform better than the rest.

Expected Output:

- A tar/zip file with the filename <first_name>_<last_name>_date_month_year.tgz for e.g., rakesh_sharma_13_02_2019.tgz which contains the following and mail it as an attachment to shubhangi.joshi@techolution.com
- Source code
  All the scripts used from proto file to creation of Please don't think of this as a student or college project, i.e., write professional grade code with appropriate semantics and comments.
- Writeup
  Brief report(pdf) of what you have done and why you have done so. o Results and observations of tasks.

Things To Remember:

- Pay attention key attention to the data types and data formats.
- Using an ML technique does not necessarily mean training a new model. Please feel free to use our given img_to_vec.py file to convert images to vector form

Code Honor To Follow:

- You may consult any papers, books, online references, or publicly available implementations for ideas and code that you may want to incorporate into your strategy or algorithm, as long as you clearly cite your sources in your code and your writeup.

Note:

- Please use only scripting languages like Python.
- Submission file should contain all the python files and any other files you used, Any notion otherwise would void your submission.
- If you have any query, please send them to shubhangi.joshi@techolution.com .
- If you do not receive any response within 24 hours, please abide by your common sense and apply the optimal logic and mention it.

- Please send all the files along with Report.
- Please maintain coding standards.
- Please complete the task as soon as possible and prioritize the tasks accordingly.