**Task 1**

**الاسم/ احمد عبدالمنعم محمد سمير**

**python libraries**

.1/PREPARE YOUR DATA

PANDAS

USE: LOAD,TRANSFORM,ANALYZE & SUMMARISE YOUR DATA

LIMITATION:

DATA HAS TO BE SMALL

ENOUGH TO FIT IN MEMORY

PYSPARK

USE:

PREPROCESS BIG DATA

(SIZE > MEMORY)

LIMITATION:

SPARK HAS TO BE INSTALLED

ON YOUR SYSTEM

DASK

USE:

PREPROCESS BIG DATA WHEN

SPARK IS NOT INSTALLED

LIMITATION:

CONTAINS FEWER FEATURES

THAN PYSPARK

2/PLOT YOUR DATA

MATPLOTLIB

USE:

QUICK DATA VISUALIZATIONS

FOR INTERNAL PURPOSES

LIMITATION:

LOW VISUAL QUALITY OF

THE FINAL PLOTS

PLOTLY

USE:

PRESENT YOUR DATA IN A

VISUALLY PEALING WAY

LIMITATION:

LOW PERFORMANCE IF THE

DATAFRAME IS BIG

.

3/BUILD YOUR MODEL

SCIPY

USE:

FOR ADVANCED LINEAR ALGEBRA

& CALCULUS OPERATIONS

LIMITATION:

DOES NOT OFFER MACHINE

LEARNING ALGORITHMS

NUMPY

USE:

STORE AND OPERATE ON

ARRAYS AND MATRICES

LIMITATION:

ADVANCED OPERATIONS ARE

NOT AVAILABLE

SKLEARN

USE:

CREATE VARIOUS TYPES OF

MACHINE LEARNING MODELS

LIMITATION:

LIMITED FUNCTIONALITY FOR

DEEP LEARNING

TENSORFLOW

USE:

FOR NEURAL NETWORKS &

DEEP LEARNING MODELS

LIMITATIO:

PROCESSING OF TEXT / IMAGES

NEEDS OTHER PACKAGES

.4/ADD TO PRODUCT

FLASK

USE:

EXPOSE YOUR MODEL TO

OTHER APPS VIA A REST API

LIMITATION:

NEED TO WORK WITH YOUR

SECURITY / SYSTEM ADMINS

DASH

USE:

TO BUILD A WEB APP THAT

BUSINESS CUSTOMER CAN USE

LIMITATION:

STEEP LEARNING CURVE &

CAN BE DIFFICULT TO DEBUG

**python 2 vs 3**

