

# ANL252

**Python for Data Analytics**

**Tutor-Marked Assignment**

|  |  |
| --- | --- |
| Course | ANL252 |
| TMA Title | TMA01 |
| Name | VAN LAL REM |
| SUSS PI No | Z2172902 |
| Date | 14 Aug 2022 |

**Question 1**:

(a) Two (2) charts and corresponding summarised tables, using MS Excel.

**Count of Citizenship**

|  |  |
| --- | --- |
| **Citizenship** | **Count of Citizenship** |
| Citizen | 197 |
| Non-Resident | 16 |
| PR | 37 |

The data above indicated that most Employees in the company are Local Citizens, followed by PR and foreigners. Having most local employees ensures the company complies with the Ministry of Manpower, which states that companies should prioritize hiring local citizens, with only a small quota for foreigners, typically capped at 10-15% of the maximum workforce.

**Count of Performance Score**

|  |  |
| --- | --- |
| **Performance Score** | **Count of Performance Score** |
| Exceed | 30 |
| Meet | 201 |
| PIP | 2 |
| To Improve | 17 |

The above data show that most company employees meet the expectations set out by their leader and manager. Only a few percent of the employees Exceed the expectation, and a handful of team members need to improve their performance. The company can help the employee meet their yearly expectations and personal goal by making their goal clear and giving them the proper tools and resources to do their best. At the same time, the company needs to provide a safe environment to work in so employees can voice their concerns, feel motivated to work and be appropriately recognized for their contributions.

(b) Charts and their corresponding summarised tables using Python

**Count of Citizenship**

import pandas as pd

data = {'Citizenship': ['Citizen', 'Non-Resident', 'PR'],

'Count of Citizenship': [197, 16, 37]

}

df = pd.DataFrame(data)

print (df)

Citizenship Count of Citizenship

0 Citizen 197

1 Non-Resident 16

2 PR 37

import pandas as pd

import matplotlib.pyplot as plt

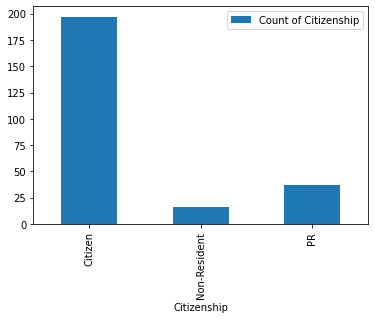
data = {'Citizenship': ['Citizen', 'Non-Resident', 'PR'],

'Count of Citizenship': [197, 16, 37]}

df = pd.DataFrame(data,columns=['Citizenship', 'Count of Citizenship'])

df.plot(x ='Citizenship', y='Count of Citizenship', kind = 'bar')

plt.show()



**Count of Performance Score**

import pandas as pd

data = {'Performance Score': ['Exceed', 'Meet', 'PIP', 'To Improve'],

'Count of Performance Score': [30, 201, 2, 17]

}

df = pd.DataFrame(data)

print (df)

Performance Score Count of Performance Score

0 Exceed 30

1 Meet 201

2 PIP 2

3 To Improve 17

import pandas as pd

import matplotlib.pyplot as plt

data = {'Performance Score': ['Exceed', 'Meet', 'PIP', 'To Improve'],

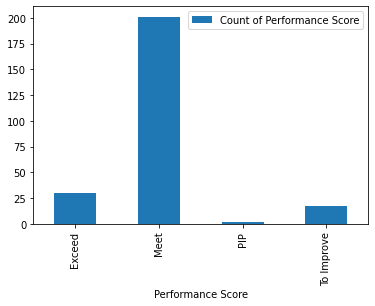
'Count of Performance Score': [30, 201, 2, 17]

}

df = pd.DataFrame(data,columns=['Performance Score', 'Count of Performance Score'])

df.plot(x ='Performance Score', y='Count of Performance Score', kind = 'bar')

plt.show()



(c)

import pandas as pd

import numpy as np

import datetime as dt

from datetime import date

import datetime

Data = pd.read\_excel (r'C:\Users\user\OneDrive\OneNote Collections\SUSS-DESKTOP-S1E18FA\ANL252\TMA\_Data.xlsx')

print(type(Data))

Data.head()

Data["JoinDate"] = pd.to\_datetime(Data["JoinDate"])

Data["LeftDate"] = Data["LeftDate"].replace(np.NaN,"2022-05-01")

Data["LeftDate"] = pd.to\_datetime(Data["LeftDate"])

Data["LeftDate"].head()

Data["JoinDate"].head()

Data["Duration"]=Data["LeftDate"].sub(Data["JoinDate"])

Data["Duration"].head()

Data["Duration"] = Data["Duration"].dt.days

Data["Duration"] = Data["Duration"]/365

Data["Duration"] = Data["Duration"].round(decimals=2)

Data["Duration"].head()

Data["Duration"].describe()

(d)

# Storing staff names in a set as it is faster to access data from a set

staffs = {"Aairah Hastings",

"Aaminah Mcmillan",

"Aamna Howell",

"Aayan Ferrell",

"Ace Potter",

"Adaline Deacon",

"Addie Terrell",

"Adeeb Rice",

"Aleena Sierra",

"Alena Galvan",

"Alfie Hibbert",

"Allison Byers",

"Amarah Morris",

"Amy Jennings",

"Anabel Stevens",

"Anaya Fischer",

"Anees Wallis",

"Anish Hoover",

"Anish Patton",

"Annabell Rivers",

"Antonina Needham",

"Aroush Fernandez",

"Ashleigh Mccabe",

"Ashleigh Wilder",

"Ayat Stokes",

"Ayda Ramos",

"Ayisha York",

"Ayomide Beasley",

"Ayush Kouma",

"Bea Andrews",

"Becky Kent",

"Benn Bouvet",

"Blake Irvine",

"Blossom Oakley",

"Bobbi Hart",

"Brendon Blaese",

"Bushra Ware",

"Cai Barrow",

"Cally Branch",

"Carole Wilks",

"Charlize Noble",

"Chaya Page",

"Chelsey Watson",

"Chelsy Melton",

"Chloe Coleman",

"Cian Butt",

"Claude Alcock",

"Conan Russell",

"Cristian Dixon",

"Daanish Payne",

"Damien Garcia",

"Dania Ford",

"Daryl Jennings",

"Debra Bond",

"Declan Delgado",

"Deen Kerr",

"Denise Philip",

"Devin Sloan",

"Diesel Rahman",

"Dominic Holden",

"Dua Santana",

"Dylan Benton",

"Ed Flower",

"Elena Weber",

"Eliot Weaver",

"Ellen Whitney",

"Ellie Chamberlain",

"Elliott Whittaker",

"Elyas Huynh",

"Emmeline Hobbs",

"Ethel Leon",

"Evan Drew",

"Evie Kirkpatrick",

"Evie-May Mcneill",

"Faiz Molloy",

"Fearne Flynn",

"Finlay Petty",

"Flora Patterson",

"Gabriela Lynch",

"Gloria Mahoney",

"Gurpreet Bateman",

"Hamza Langley",

"Hanna Edmonds",

"Harleigh Thomas",

"Harper Mcleod",

"Hayley Chandler",

"Hebe Colley",

"Hiba Reyes",

"Honey Warren",

"Howard Cain",

"Imran Bird",

"Iosif Perkins",

"Isaak Moses",

"Isabella-Rose Laing",

"Isha Houghton",

"Ishika Haigh",

"Izabel Hartley",

"Izabella Maddox",

"Jace Crouch",

"Jagoda Randolph",

"Jamelia Chase",

"Jamie Fritz",

"Jardel Nielsen",

"Jay Bauer",

"Jenna Carty",

"Jensen Hartman",

"Jeremiah Britt",

"Jia Chadwick",

"Jillian Mcclure",

"Jo Valdez",

"Jobe Doyle",

"Joel Mcfarland",

"Jonathon Rosa",

"Jordana Cochran",

"Jordanne Cote",

"Josephine Bowman",

"Julien Clegg",

"Kade Coles",

"Kanye Haynes",

"Kanye Walton",

"Katerina Cox",

"Katey Huynh",

"Katy Mclean",

"Kayden Whittaker",

"Keeva Newton",

"Kelsea Beasley",

"Khadijah Henderson",

"Khalil Black",

"Kie Bain",

"Kie Osborne",

"Killian Houston",

"Kingston Kirkpatrick",

"Kobie Clifford",

"Kole Guzman",

"Kory Walters",

"Kristopher Thornton",

"Lea Tillman",

"Lee Sullivan",

"Leonardo Valdez",

"Leonidas Austin",

"Lexie Conway",

"Libby Greaves",

"Lilliana Black",

"Lillie Davila",

"Lindsey Gill",

"Loren Wilkins",

"Louise Arnold",

"Luc Farmer",

"Lyndon Prince",

"Macauly Levy",

"Macey Edmonds",

"Macy Velazquez",

"Mairead Oakley",

"Makayla Eastwood",

"Makenzie Wiggins",

"Marcos Saunders",

"Marlie Lott",

"Martin Aguirre",

"Matei Marquez",

"Matt Neville",

"Max Smyth",

"Mckenzie Puckett",

"Meera Woodward",

"Meg Gough",

"Michele Lucas",

"Molly Conley",

"Monet Ahmed",

"Muhammed Greene",

"Nadir Redmond",

"Natalia Ortiz",

"Natalie Kennedy",

"Natasha Cortez",

"Nazifa Everett",

"Neelam Clarkson",

"Neriah Alcock",

"Nichole Hewitt",

"Ollie Holloway",

"Omar Macleod",

"Osama Byers",

"Owain Oakley",

"Ozan Buckley",

"Paris Joseph",

"Paul Hart",

"Pawel Garrison",

"Phoebe Murillo",

"Piotr Watson",

"Pollyanna Robin",

"Rae Partridge",

"Rares Galindo",

"Raul Allison",

"Rayan Estes",

"Rayyan Ballard",

"Reilly Guy",

"Reyansh Charlton",

"Rianne Corrigan",

"Riaz Callahan",

"Robin Parkinson",

"Rohit Ellwood",

"Roma Bailey",

"Roman Anthony",

"Rosemarie Jensen",

"Ruby Stephens",

"Rudra Ross",

"Rui Stephenson",

"Ruth Guy",

"Safwan Herrera",

"Salma Choi",

"Sanaya Browne",

"Sannah Frederick",

"Sasha Foley",

"Savanna Krause",

"Selin Reeve",

"Sharon Chen",

"Shea Stewart",

"Shuaib Crawford",

"Shyam Baker",

"Sid Ali",

"Sienna Bender",

"Simeon Gentry",

"Sion Redfern",

"Sonia Mora",

"Stacey Felix",

"Stefanie John",

"Stuart Daniels",

"Sultan Watts",

"Summer-Rose Holloway",

"Susannah Sumner",

"Tahmina Webb",

"Taio Barrera",

"Tammy Russo",

"Tasnia Denton",

"Tegan Ritter",

"Tierney Currie",

"Tina Power",

"Toni Mcfarland",

"Torin Reese",

"Tre Kelly",

"Troy Vaughan",

"Ty Mccormick",

"Tyreece Wormald",

"Vickie Mullins",

"Warwick Byrne",

"Whitney Vinson",

"Wren Duke",

"Yousaf Wagner",

"Zaina Parrish",

"Zane Downes",

"Zayd Farley",

"Zoya Easton",

"Zuzanna Pruitt"}

# this LOOP will stop when the user enters 0

while True:

inp = input("Enter the name of the Staff or enter 0 to stop: ")

if (inp == "0"):

break

# If user did not enter 0, the program will check the name of the staff input inside the set

else:

# if the staff name is found in the set, we will print the message below

if inp in staffs:

print(f"Yes, {inp} is/was staff of the organization")

# if the staff name is not found in the set, we will print the message below

else:

print(f"No, {inp} is/was NOT staff of the organization")