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FACULTY OF ENGINEERING

COMPUTER PROGRAMMING

COURSE UNIT: MATLAB

A REPORT ABOUT THE MATLAB ASSIGNMENT ONE

SUBMITTED BY:

NAME: GROUP A

GITHUB LINK: <https://github.com/group-A-dot/Group-A-.git>

Lecturer: ENG. BENEDICTO MASERUKA

Date of submission.... /...../.....

ABSTRACT

We started our assignment in the university library out of which we were exposed to various codes in the different sections through Group A members, we generated the codes necessary from the work that we were taught in the lecture and also researched on more information that can help us complete the assignment.

LIST OF GROUP A MEMBERS

GROUP LINK: <https://github.com/group-A-dot/Group-A-.git>

STUDENT NAME	REG NO.	COURSE	GITHUB LINK
SSENTUDE IBRAHIM	BU/UG/2024/2588	WAR	https://github.com/ssentudde/ssentuddeibrahim.git
MUTARYEB WA .E. LUKE	BU/UP/2024/1042	WAR	https://github.com/mutaryebwa/Mutaryebwa-Luke-Ahebwa.git
MUGISHA PETER	BU/UP/2024/3225	AMI	https://github.com/MugishaPeter/Matlabprogramming.git
MAKAAYI HAKIIM	BU/UP/2024/3819	PTI	https://github.com/Makaayi/Makaayi-Hakiim
CHELIMO SANDRA	BU/UP/2024/5402	WAR	https://github.com/chelimosandra6-png/Chelimo-Sandra-.git
NAKABUGO HAULA KASULE	BU/UP/2024/3741	AMI	https://github.com/haula-git/Nakabugo-haula-.git
IKEO JESCA	BU/UP/2024/1027	WAR	https://github.com/Ikeo-1234/IKEO-JESCA#:~:text=https%3A//github.com/Ikeo%2D1234/IKEO%2DJESCA.git
NAKAZIBWE ETHEL	BU/UP/2024/0835	AMI	https://github.com/ethelnakazibwe9/Nakazibwe-Ethel-.git

ATIM GLORIA VERONICA	BU/UP/202 4/1017	WAR	https://github.com/Atim658/Atim-Gloria-Veronica.git
ADONGO POFFIA	BU/UP/202 4/0823	AMI	https://github.com/padongo240823-ops/Poffia-2004#:~:text=https%3A//github.com/padongo240823%2Dops/Poffia%2D2004.git
MUTAKA AMOS	BU/UP/202 4/4451	WAR	https://github.com/mutaka03/Mutaka-Amos.git
OGUTU DANIEL WAFULA	BU/UP/202 4/1060	WAR	https://github.com/ogutudanielwafula-collab/ogutu-daniel-wafula
OWOR HAMIDU	BU/UG/202 4/2600	PTI	https://github.com/hamiduowor/hamiduowor.git
WAMBASA GEOFREY	BU/UP/202 4/3259	WAR	https://github.com/wambasa/Wambasa-Geofrey.git
MUHANGI MOURIS MATHEW	BU/UP/202 4/5345	MEB	https://github.com/mourismuhangi-prog/Muhangi-Mouris-Mathew-#:~:text=https%3A//github.com,-/mourismuhangi%2Dprog/Muhangi
OBUR CHARLES	BU/UP/202 4/3743		https://github.com/charlesobur86/Obur-Charles-.git
OKOT SANDRA	BU/UP/202 4/3255	WAR	https://github.com/Okot33/Sandra.git
OMALI EMMANUEL	BU/UP/202 4/1062	WAR	https://github.com/emmason15/OMALI-EMMANUEL-.git
ATUSIIMIRWE OLIVIA	BU/UG/202 4/2597	WAR	https://github.com/oliviaatusiimirwe/atusiimirwe.git
OCHEN PAUL ENYARU	BU/UP/202 3/1066	AMI	https://github.com/paulenyaru/paul.git

ODONG JOSEPH ARIONG	BU/UP/202 4/0840	AMI	https://github.com/odongjoseph12/joseph.git
NABWIRE AISHA WANDID	BU/UP/202 3/0833	MEB	http://github.com/aishaali2003/Nabwire.git

DECLARATION

We hereby certify and confirm that the information in this report is out of our own efforts, research and it has never been submitted in any institution for any academic award.

Group leader's signature;

Date;

ACKNOWLEDGEMENT

First and foremost, we would like to thank the Almighty God for giving us the strength to carry on with our assignment as group A. We would love to extend our gratitude to all the persons with whose help we managed to make it this far. The willingness of each one of us to invest time and provide constructive feedback has been immensely valuable in this assignment. Finally, we would like to express our gratitude to all the sources and references that we used.

DEDICATION.

We dedicate this report to all the individuals especially Group A members, who have been there for us in the process of formulating and producing this report. To our lecturer Mr. Maseruka Benedicto whose guidance and expertise have been invaluable, your mentorship and insightful feedback have shaped our understanding.

APPROVAL

This is to confirm that this report has been written and presented by GROUP A, giving the details of the first matlab assignment and what they learnt.

LECTURER;

NAME:

SIGNATURE:

DATE:

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CHAPTER ONE

1.1 NUMBER ONE:

There is a site called kaggle.com on the web. Each group should be able to retrieve a unique data set in excel format. The group will be able to copy variables of each year and put them in the following;

1. Tables for each year of data
2. Convert the tables in 1.) above into structural arrays
3. Output each of the variables in 2.) above into a single workbook with each year on separate sheets having clear column headings and sheet names.

SOLUTION

```
% Get the current script directory
scriptDir = fileparts(mfilename('fullpath'));

% Define relative paths
inputFilePath = fullfile(scriptDir, 'climate_change_dataset.xlsx');
outputDir = fullfile(scriptDir, 'MatlabExcel Assignment');

% Create output directory if it doesn't exist
if ~exist(outputDir, 'dir')
    mkdir(outputDir);
end

% Read the Excel file
T = readtable(inputFilePath, Range="A1:T54", ReadVariableNames=true);

%A = 2020
A = T(1:12,:);
%B = 2021
B = T(13:24,:);
%C = 2022
C = T(25:36,:);
%D = 2023
D = T(37:48,:);
%E = 2024
E = T(49:53,:);

% Convert to structure arrays
AS = table2struct(A);
BS = table2struct(B);
CS = table2struct(C);
DS = table2struct(D);
```

```
ES = table2struct(E);

% Convert back to tables and save
AT = struct2table(AS);
writetable(AT, fullfile(outputDir, 'AT.xlsx'));

BT = struct2table(BS);
writetable(BT, fullfile(outputDir, 'BT.xlsx'));

CT = struct2table(CS);
writetable(CT, fullfile(outputDir, 'CT.xlsx'));

DT = struct2table(DS);
writetable(DT, fullfile(outputDir, 'DT.xlsx'));

ET = struct2table(ES);
writetable(ET, fullfile(outputDir, 'ET.xlsx'));

disp('Processing complete. Files saved in MatlabExcel Assignment folder.');
```

CHAPTER TWO

2.0 NUMBER TWO

Each group has different members from different backgrounds, home districts, courses, religions, tribes, villages, interests, ages, names and facial representation.

1. Write a matlab code that can store each member's aforementioned attributes into a single variable.
2. Ensure the code saves the variables.

SOLUTION

```
%% Defining struct
Members=
struct('Name', {}, 'Age', {}, 'Course', {}, 'HomeDistrict', {}, 'Tribe', {}, 'Facialrepresentat
ion', {}, 'Interests', {});
%Member1
Members(1).Name='Ikeo Jesca';
Members(1).Age=22;
Members(1).Course='WAR';
Members(1).HomeDistrict='Kaberamaido';
Members(1).Tribe='Kumam';
Members(1).Facialrepresentation=imread('ngc6543a.jpg');
Members(1).Interests='Alot';
%Member 2
Members(2).Name='Mugisha Peter';
Members(2).Age=23;
Members(2).Course='AMI';
Members(2).HomeDistrict='Koboko';
Members(2).Tribe='Itesot';
Members(2).Facialrepresentation=imread('ngc6543a.jpg');
Members(2).Interests='Football';
%Member 3
Members(3).Name = 'Atusiimirwe Olivia';
Members(3).Age = 22;
Members(3).Course = 'WAR';
Members(3).HomeDistrict = 'Kiruhura';
Members(3).Tribe = 'Munyankore';
Members(3).Interests = 'Food';
Members(3).Facialrepresentation=imread('ngc6543a.jpg');
%Member 4
Members(4).Name = 'Ssentude Ibrahim';
Members(4).Age = 23;
Members(4).Course = 'WAR';
Members(4).HomeDistrict = 'MASAKA';
Members(4).Tribe = 'Muganda';
```

```

Members(4).Interests = 'Football';
Members(4).Facialrepresentation = imread('ngc6543a.jpg');
%Member 5
Members(5).Name = 'Mutaryebwa Luke';
Members(5).Age = 22;
Members(5).Course = 'WAR';
Members(5).HomeDistrict = 'BUSHENYI';
Members(5).Tribe = 'Munyankore';
Members(5).Interests = 'Politics';
Members(5).Facialrepresentation = imread('ngc6543a.jpg');
%Member 6
Members(6).Name = 'Makaayi Hakim';
Members(6).Age = 21;
Members(6).Course = 'PTI';
Members(6).HomeDistrict = 'WAKISO';
Members(6).Tribe = 'Muganda';
Members(6).Interests = 'Coding';
Members(6).Facialrepresentation = imread('ngc6543a.jpg');
%Member 7
Members(7).Name = 'Chelimo Sandra';
Members(7).Age = 22;
Members(7).Course = 'WAR';
Members(7).HomeDistrict = 'Kapchorwa';
Members(7).Tribe = 'Itesot';
Members(7).Interests = 'Dancing';
Members(7).Facialrepresentation = imread('ngc6543a.jpg');
%Member 8
Members(8).Name = 'Nakabugo Haula';
Members(8).Age = 21;
Members(8).Course = 'AMI';
Members(8).HomeDistrict = 'WAKISO';
Members(8).Tribe = 'Muganda';
Members(8).Interests = 'Modelling';
Members(8).Facialrepresentation = imread('ngc6543a.jpg');
%Member 9
Members(9).Name = 'Nakazibwe Ethel';
Members(9).Age = 22;
Members(9).Course = 'AMI';
Members(9).HomeDistrict = 'KAMPALA';
Members(9).Tribe = 'Muganda';
Members(9).Interests = 'Basketball';
Members(9).Facialrepresentation = imread('ngc6543a.jpg');
%Member 10
Members(10).Name = 'Atim Gloria';
Members(10).Age = 22;
Members(10).Course = 'WAR';
Members(10).HomeDistrict = 'MUKONO';
Members(10).HomeDistrict = 'SOROTI';
Members(10).Tribe = 'Itesot';
Members(10).Interests = 'Graphics';
Members(10).Facialrepresentation = imread('ngc6543a.jpg');
%Member 11
Members(11).Name = 'Adongo Poffia';
Members(11).Age = 23;
Members(11).Course = 'AMI';

```

```

Members(11).HomeDistrict = 'ARUA';
Members(11).Tribe = 'Arur';
Members(11).Interests = 'Music';
Members(11).Facialrepresentation = imread('ngc6543a.jpg');
%Member 12
Members(12).Name = 'Mutaka Amos';
Members(12).Age = 20;
Members(12).Course = 'WAR';
Members(12).HomeDistrict = 'MBALE';
Members(12).Tribe = 'Samia';
Members(12).Interests = 'Football';
Members(12).Facialrepresentation = imread('ngc6543a.jpg');
%Member 13
Members(13).Name = 'Wafula Daniel';
Members(13).Age = 22;
Members(13).Course = 'WAR';
Members(13).HomeDistrict = 'APAC';
Members(13).Tribe = 'Itesot';
Members(13).Interests = 'Music';
Members(13).Facialrepresentation = imread('ngc6543a.jpg');
%Members 14
Members(14).Name = 'Owor Hamidu';
Members(14).Age = 21;
Members(14).Course = 'PTI';
Members(14).HomeDistrict = 'LIRA';
Members(14).Tribe = 'Kumam';
Members(14).Interests = 'Dancing';
Members(14).Facialrepresentation = imread('ngc6543a.jpg');
%Member 15
Members(15).Name = 'Wamabasa Geofrey';
Members(15).Age = 22;
Members(15).Course = 'WAR';
Members(15).HomeDistrict = 'NAKASEKE';
Members(15).Tribe = 'Musoga';
Members(15).Interests = 'Football';
Members(15).Facialrepresentation = imread('ngc6543a.jpg');
%Member 16
Members(16).Name = 'Muhangi Mathew';
Members(16).Age = 23;
Members(16).Course = 'MEB';
Members(16).HomeDistrict = 'MBARARA';
Members(16).Tribe = 'Munyankore';
Members(16).Interests = 'Politics';
Members(16).Facialrepresentation = imread('ngc6543a.jpg');
%Members
Members(17).Name = 'Obur Charles';
Members(17).Age = 22;
Members(17).Course = 'PTI';
Members(17).HomeDistrict = 'ARUA';
Members(17).Tribe = 'Lugbara';
Members(17).Interests = 'Movies';
Members(17).Facialrepresentation = imread('ngc6543a.jpg');
%Members 18
Members(18).Name = 'Okot Sandra';
Members(18).Age = 21;

```

```
Members(18).Course = 'WAR';
Members(18).Name = 'Okot';
Members(18).HomeDistrict = 'Dokolo';
Members(18).Tribe = 'Langi';
Members(18).Interests = 'Football';
Members(18).Facialrepresentation = imread('ngc6543a.jpg');
%Member 19
Members(19).Name = 'Omali Emmanuel';
Members(19).Age = 22;
Members(19).Course = 'WAR';
Members(19).HomeDistrict = 'AMURAT';
Members(19).Tribe = 'Itesot';
Members(19).Interests = 'Music';
Members(19).Facialrepresentation = imread('ngc6543a.jpg');
%Member 20
Members(20).Name = 'Ochen Paul';
Members(20).Age = 22;
Members(20).Course = 'AMI';
Members(20).HomeDistrict = 'Gulu';
Members(20).Tribe = 'Acholi';
Members(20).Interests = 'Football';
Members(20).Facialrepresentation = imread('ngc6543a.jpg');
```