

Source code dalam matlab :

```

Editor - D:\File Resa\Referensi TA\Matlab\GRA_Jakarta.m
EDITOR PUBLISH VIEW
New Open Save Compare Print Find Files Go To Insert Comment Indent Breakpoints Run Run and Advance Run Section Run and Time
FILE NAVIGATE EDIT BREAKPOINTS RUN
GRA_Jakarta.m GRA_Bogor.m GRA_Depok.m GRA_Tangerang.m GRA_Bekasim.m
1 OTG=[1077;1882;5934;12323;1442;387;1274;1124];
2 PPK=[2673;15972;39762;24274;22801;2332;23000;6279];
3 MMB=[7294;17169;22936;30507;28900;35804;35895;42867];
4 KRM=[223;1541;2056;2890;11987;3487;4843;2860];
5 HLN=[468;2099;3870;3574;3450;1397;2877;2530];
6 TKF=[4995;8888;17227;36440;63958;65525;62039;88237];
7 disp('GRA Experiment for Smaller the better example\n');
8 disp('Step 1 preprocessing --> data normalization with smaller the better criteria');
9 OTG_1=(max(OTG)-OTG)/(max(OTG)-min(OTG));
10 PPK_1=(max(PPK)-PPK)/(max(PPK)-min(PPK));
11 MMB_1=(max(MMB)-MMB)/(max(MMB)-min(MMB));
12 KRM_1=(max(KRM)-KRM)/(max(KRM)-min(KRM));
13 HLN_1=(max(HLN)-HLN)/(max(HLN)-min(HLN));
14 TKF_1=(max(TKF)-TKF)/(max(TKF)-min(TKF));
15 disp(['OTG_1','PPK_1','MMB_1','KRM_1','HLN_1','TKF_1'];num2cell([OTG_1,PPK_1,MMB_1,KRM_1,HLN_1,TKF_1]));
16 disp('Step 2 --> Find delta value based on ideal value: 1');
17 delta_TKF_OTG=abs(TKF_1-OTG_1);
18 delta_TKF_PPK=abs(TKF_1-PPK_1);
19 delta_TKF_MMB=abs(TKF_1-MMB_1);
20 delta_TKF_KRM=abs(TKF_1-KRM_1);
21 delta_TKF_HLN=abs(TKF_1-HLN_1);
22
23 disp(['delta_TKF_OTG','delta_TKF_PPK','delta_TKF_MMB','delta_TKF_KRM','delta_TKF_HLN'];num2cell([delta_TKF_OTG,delta_TKF_PPK,delta_TKF_MMB,delta_TKF_KRM,delta_TKF_HLN]));
24 disp('Step 3 --> Find Grey Relational Coefficient');
25 dist_val=0.5;
26 OTG_2=(min(delta_TKF_OTG)+dist_val*max(delta_TKF_OTG))/(delta_TKF_OTG+dist_val*max(delta_TKF_OTG));
27 PPK_2=(min(delta_TKF_PPK)+dist_val*max(delta_TKF_PPK))/(delta_TKF_PPK+dist_val*max(delta_TKF_PPK));
28 MMB_2=(min(delta_TKF_MMB)+dist_val*max(delta_TKF_MMB))/(delta_TKF_MMB+dist_val*max(delta_TKF_MMB));
29 KRM_2=(min(delta_TKF_KRM)+dist_val*max(delta_TKF_KRM))/(delta_TKF_KRM+dist_val*max(delta_TKF_KRM));
30 HLN_2=(min(delta_TKF_HLN)+dist_val*max(delta_TKF_HLN))/(delta_TKF_HLN+dist_val*max(delta_TKF_HLN));

```

Hasil output :

```

MATLAB R2021a
HOME PLOTS APPS
New Variable Analyze Code Preferences Community
New Live Script Import Save Open Variable Favorites Run and Time Simulink Layout Set Path Add-Ons Help Request Support
FILE VARIABLE CODE SIMULINK ENVIRONMENT RESOURCES
D:\File Resa\Referensi TA\Matlab
Current Folder
Name
source code
GRA_Bekasim
GRA_Bogor.m
GRA_Depok.m
GRA_Jakarta.m
GRA_Tangerang.m
Command Window
Warning: Unable to create personal MATLAB work folder:C:\Users\Lenovo\Documents\MATLAB
>> GRA_Jakarta
GRA Experiment for Smaller the better example\n
Step 1 preprocessing --> data normalization with smaller the better criteria
('OTG_1' ('PPK_1' ('MMB_1' ('KRM_1' ('HLN_1' ('TKF_1' )
[0.9626] [0.9909] [1] [1] [1] [1]
[0] [0.6356] [0.7224] [0.8880] [0.5206] [0.9532]
[0.6993] [0] [0.5603] [0.8442] [0] [0.8531]
[0.3529] [0.4138] [0.3475] [0.7733] [0.0870] [0.6222]
[0.9428] [0.4531] [0.3926] [0] [0.1235] [0.2917]
[1] [1] [0.1985] [0.7225] [0.7269] [0.2728]
[0.9519] [0.4478] [0.1960] [0.6073] [0.2919] [0.3147]
[0.9600] [0.8945] [0] [0.7758] [0.3939] [0]

Step 2 --> Find delta value based on ideal value: 1
('delta_TKF_OTG' ('delta_TKF_PPK' ('delta_TKF_MMB' ('delta_TKF_KRM' ('delta_TKF_HLN')
[0.0374] [0.0091] [0] [0] [0]
[0.9532] [0.3176] [0.2308] [0.0653] [0.4327]
[0.1538] [0.8531] [0.2928] [0.0089] [0.8531]
[0.2694] [0.2085] [0.2748] [0.1510] [0.5352]
[0.6511] [0.1615] [0.1010] [0.2917] [0.1682]
[0.7272] [0.7272] [0.0743] [0.4497] [0.4541]
[0.6372] [0.1331] [0.1187] [0.2926] [0.0228]
[0.9600] [0.8945] [0] [0.7758] [0.3939]

Step 3 --> Find Grey Relational Coefficient
('GRA TKF-OTG' ('GRA TKF-PPK' ('GRA TKF-MMB' ('GRA TKF-KRM' ('GRA TKF-HLN')
[1] [1] [1] [1] [1]
[0.3610] [0.5266] [0.3881] [0.8560] [0.4964]

```