

TUTORIAL

Pembuatan Citra Digital Pada MATLAB

Diajukan Untuk Memenuhi Tugas Mata Kuliah Pengolahan Citra Digital



Disusun oleh :

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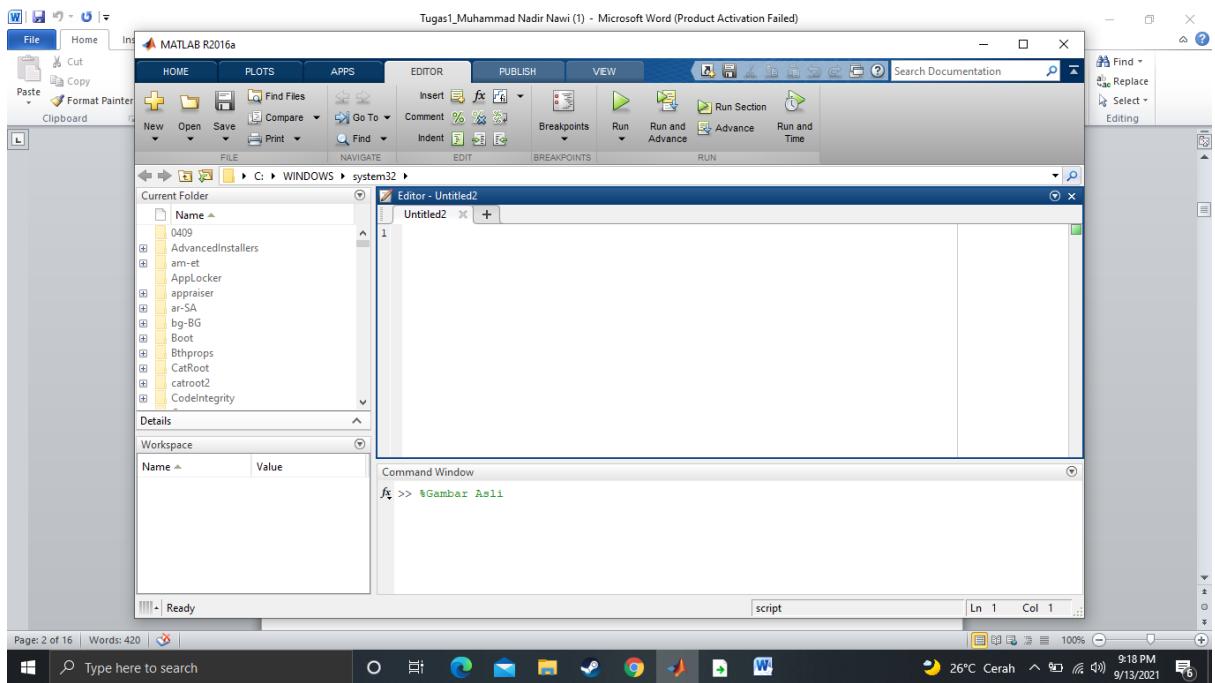
NIM: 200209502009

Kelas: PTIK C 2020

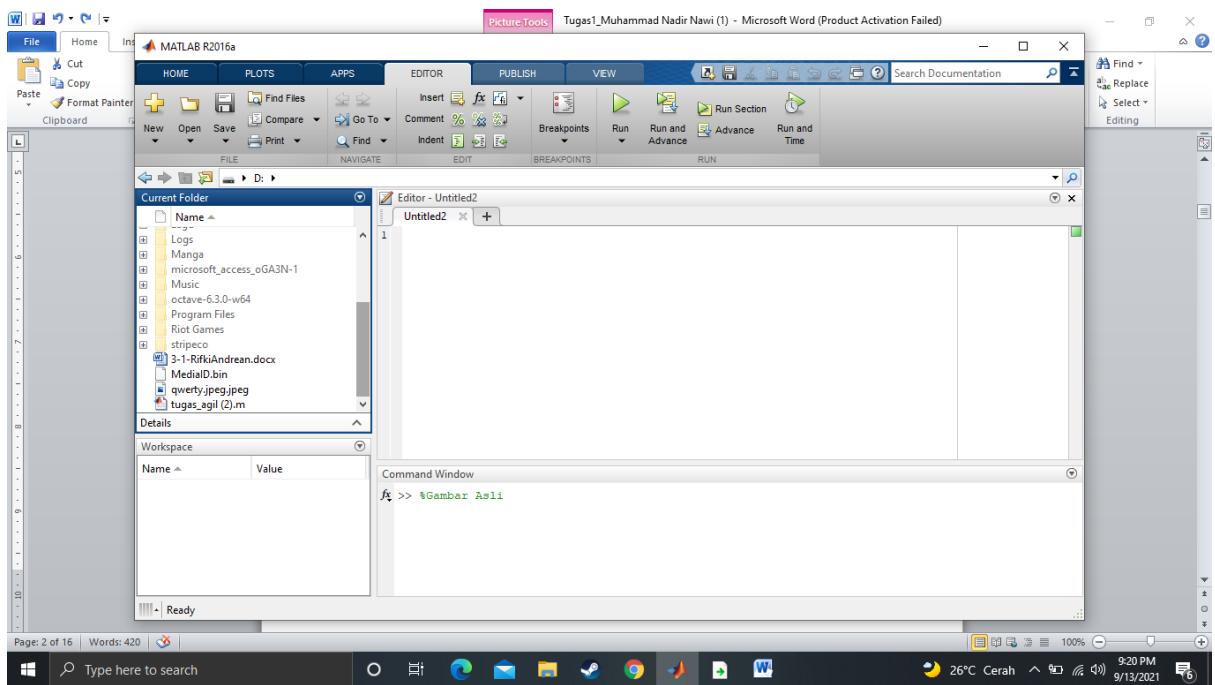
**Program Studi Pend. Teknik Informatika Dan Komputer
Fakultas Teknik
Universitas Negeri Makassar
2021/2022**

Tutorial Pembuatan Citra Digital

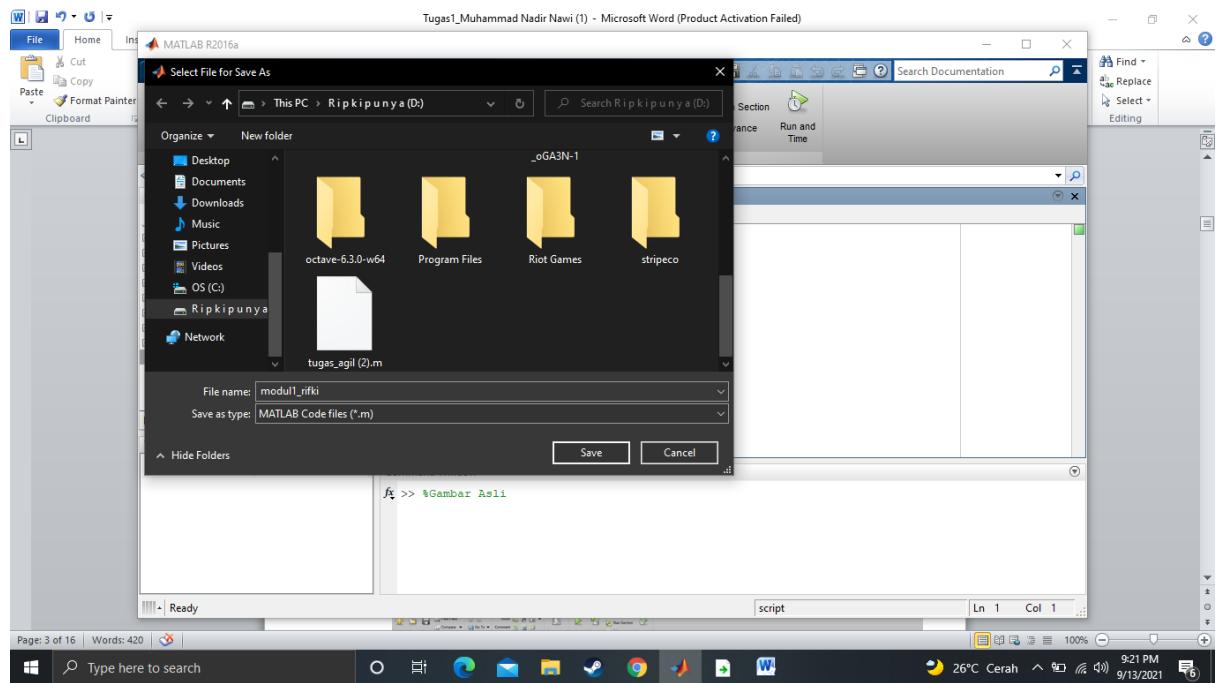
1. Membuka Aplikasi MATLAB



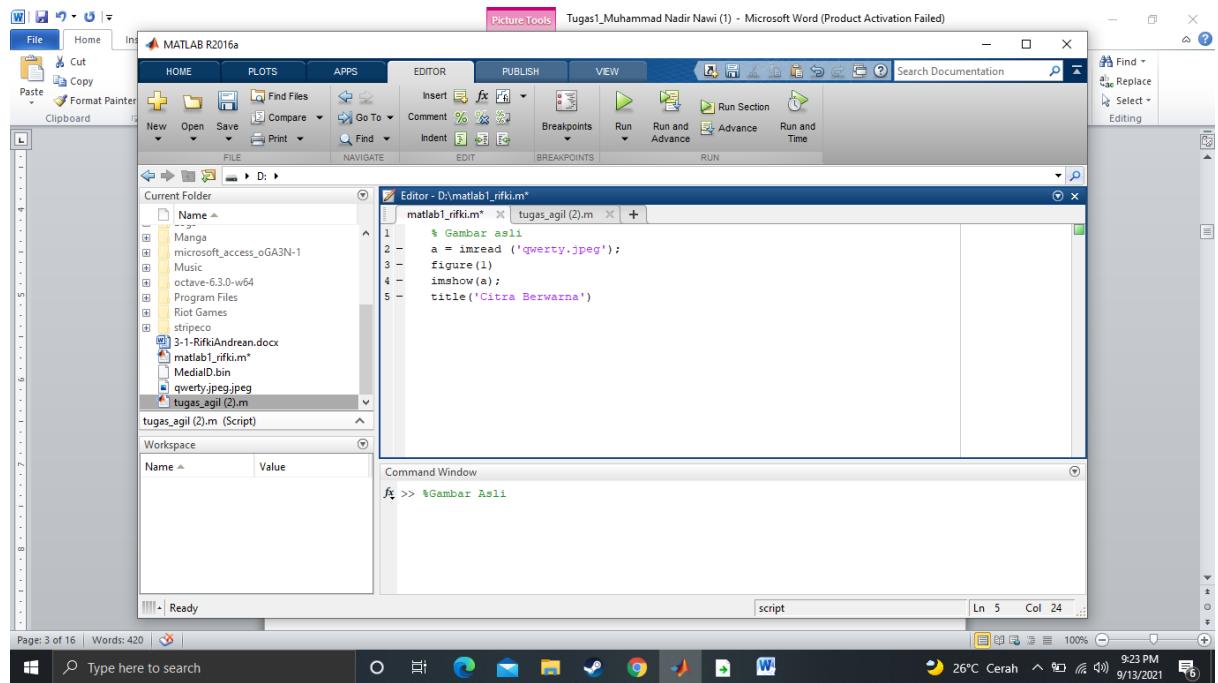
2. Mengarahkan Direktori ke Folder yang berisi gambar yang akan kita gunakan



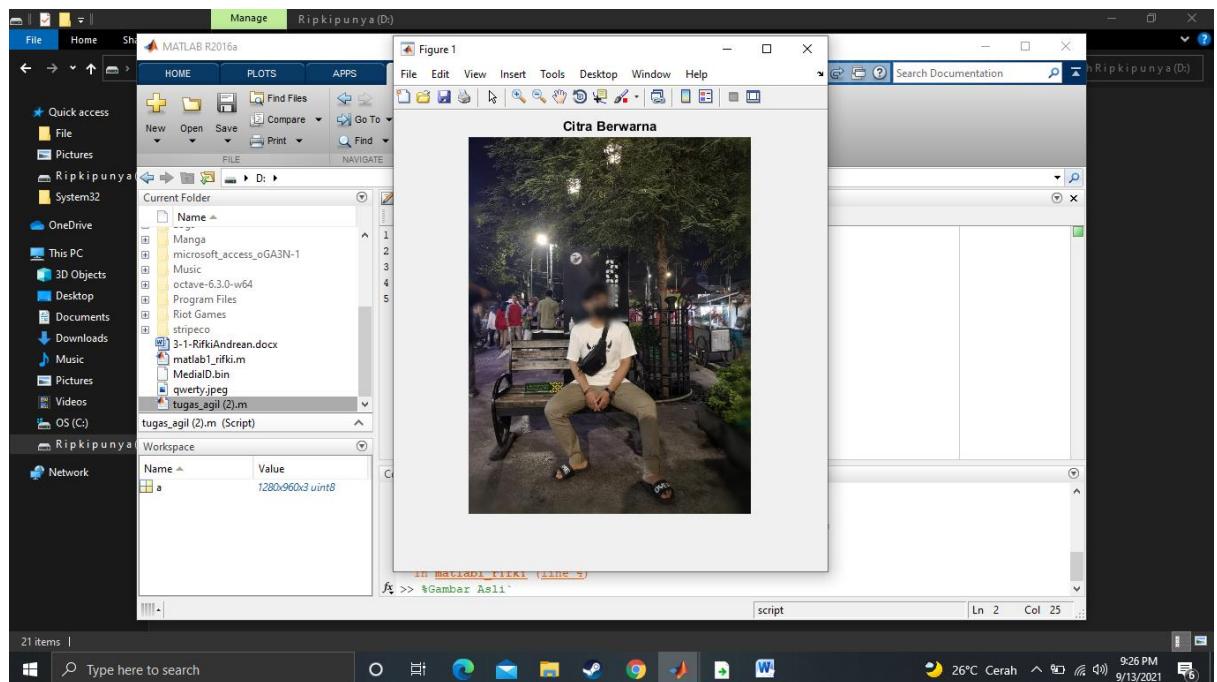
3. Save Filenya, untuk nama filenya cukup disesuaikan



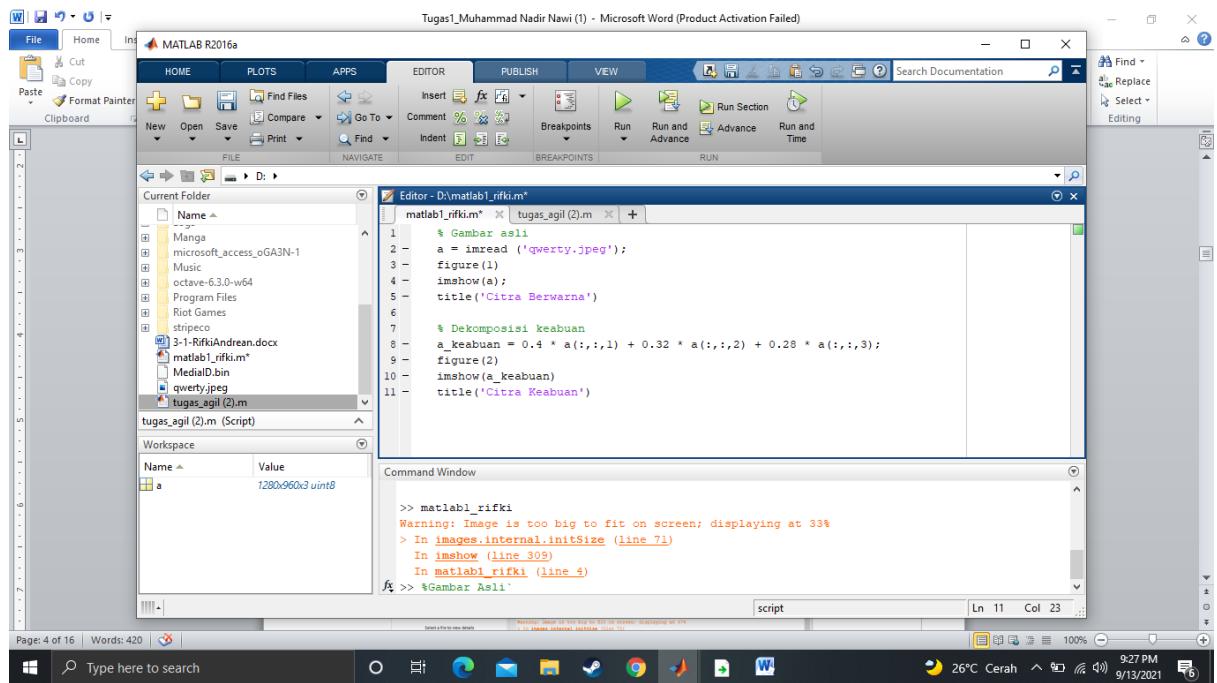
4. Memasukkan Gambar ke dalam MATLAB dengan code seperti dibawah



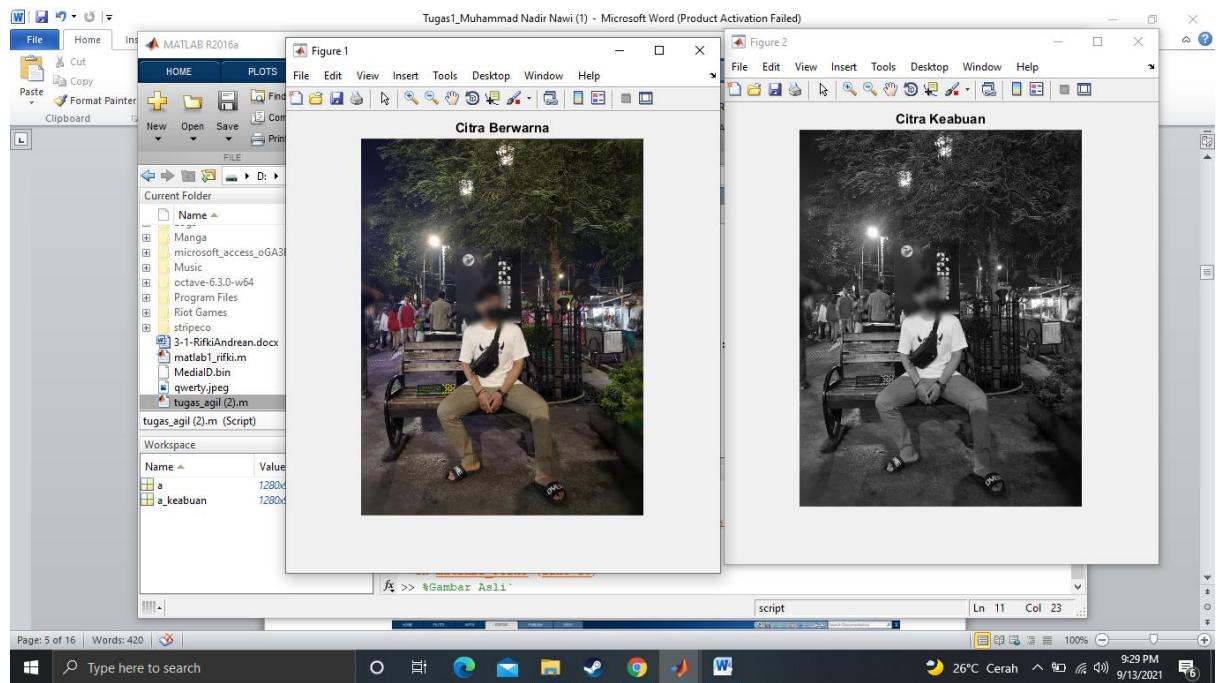
5. Kita RUN program-nya maka akan muncul Gambar yang disediakan



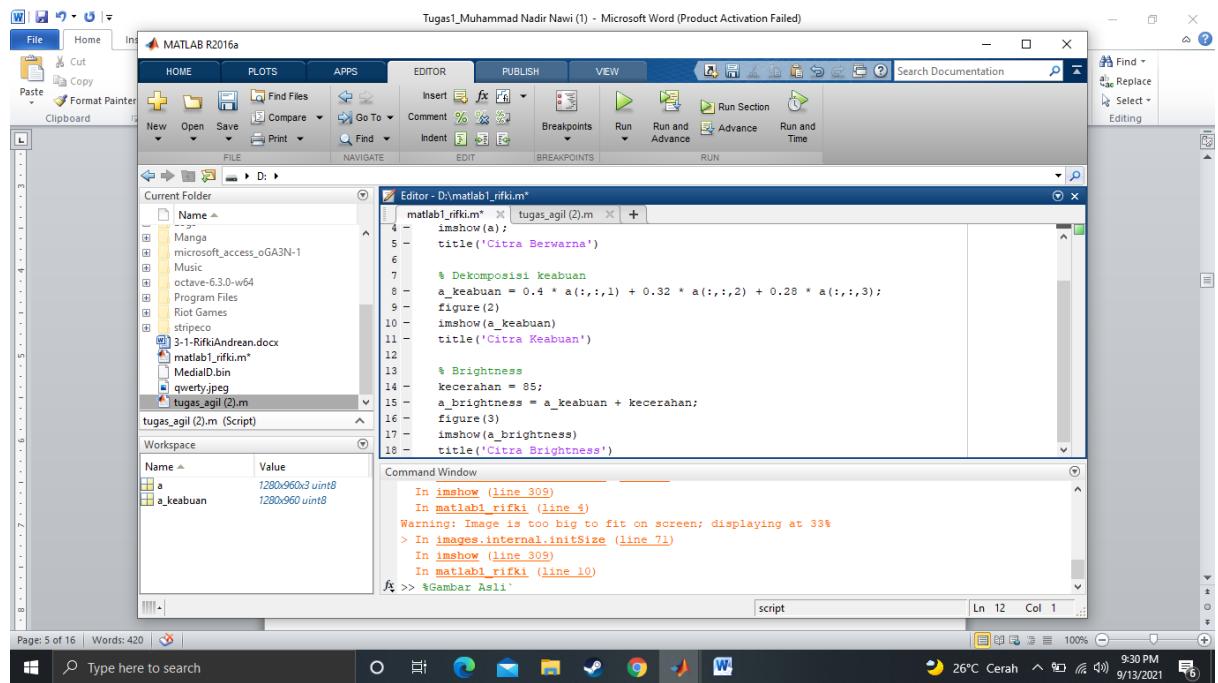
6. Selanjutnya kita dapat memulai membuat citra digital, citra digital pertama yang kita buat adalah citra keabuan dengan program seperti digambar



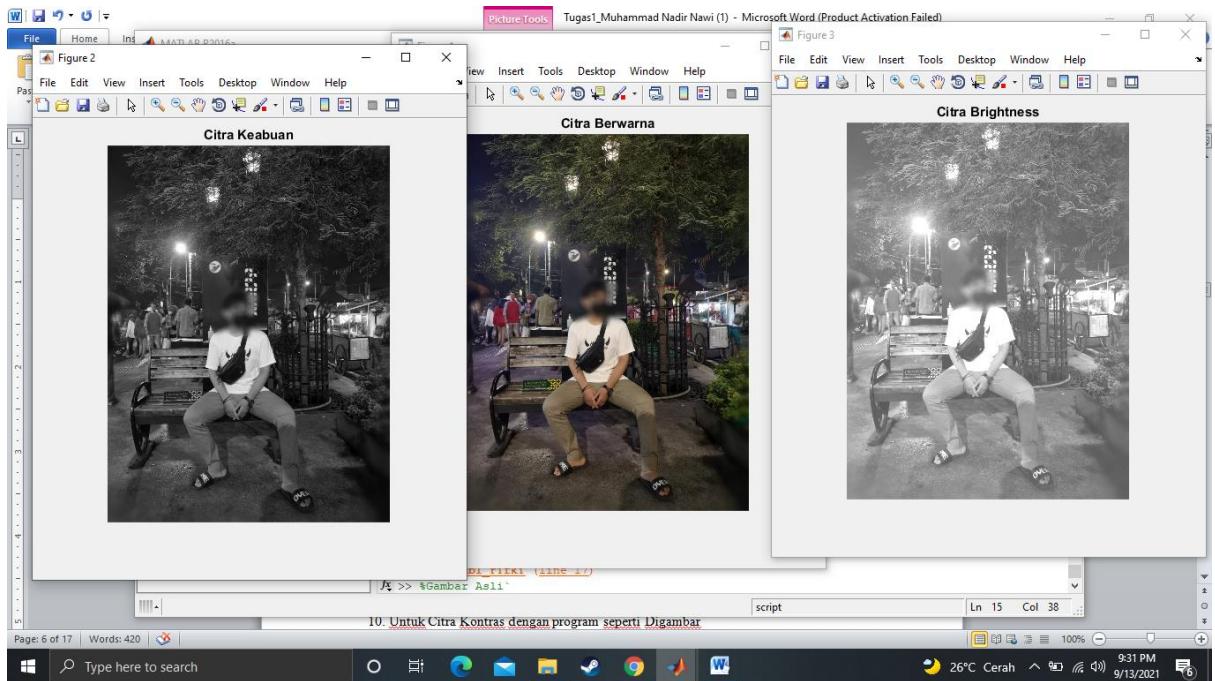
7. Kita RUN program-nya maka akan muncul Gambar hasil citra keabuan



8. Untuk Citra brightness dengan program seperti Digambar



9. Kita RUN program-nya maka akan muncul Gambar hasil citra brightness

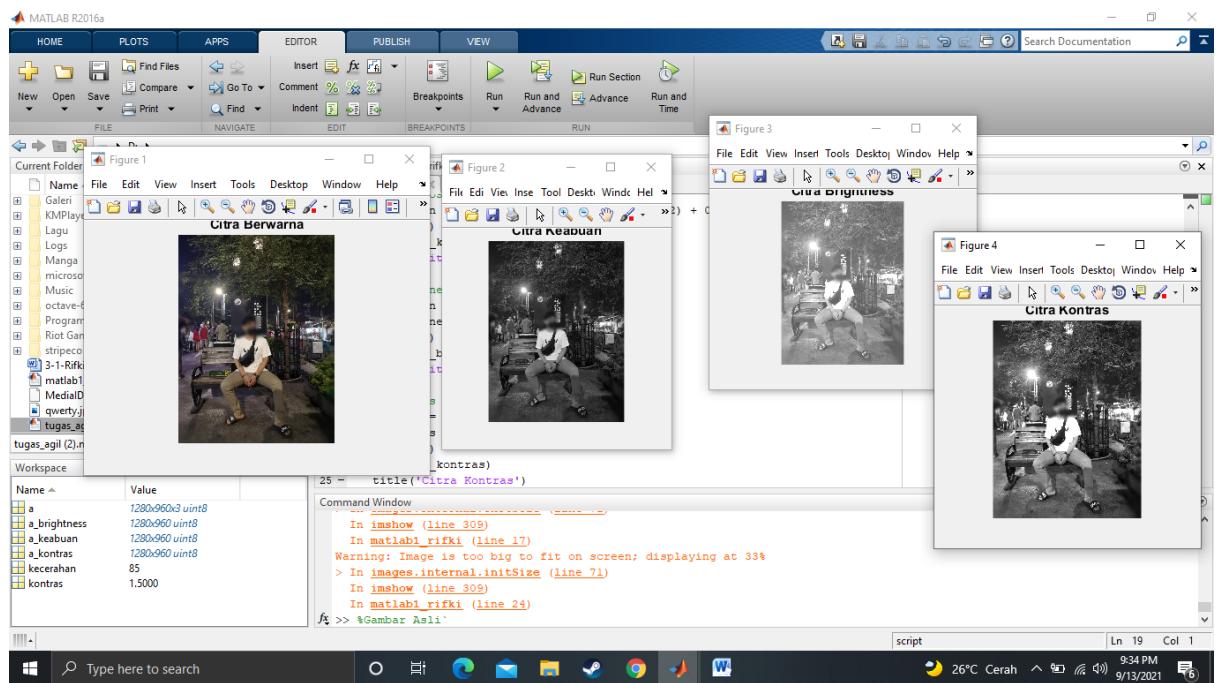


10. Untuk Citra Kontras dengan program seperti Digambar

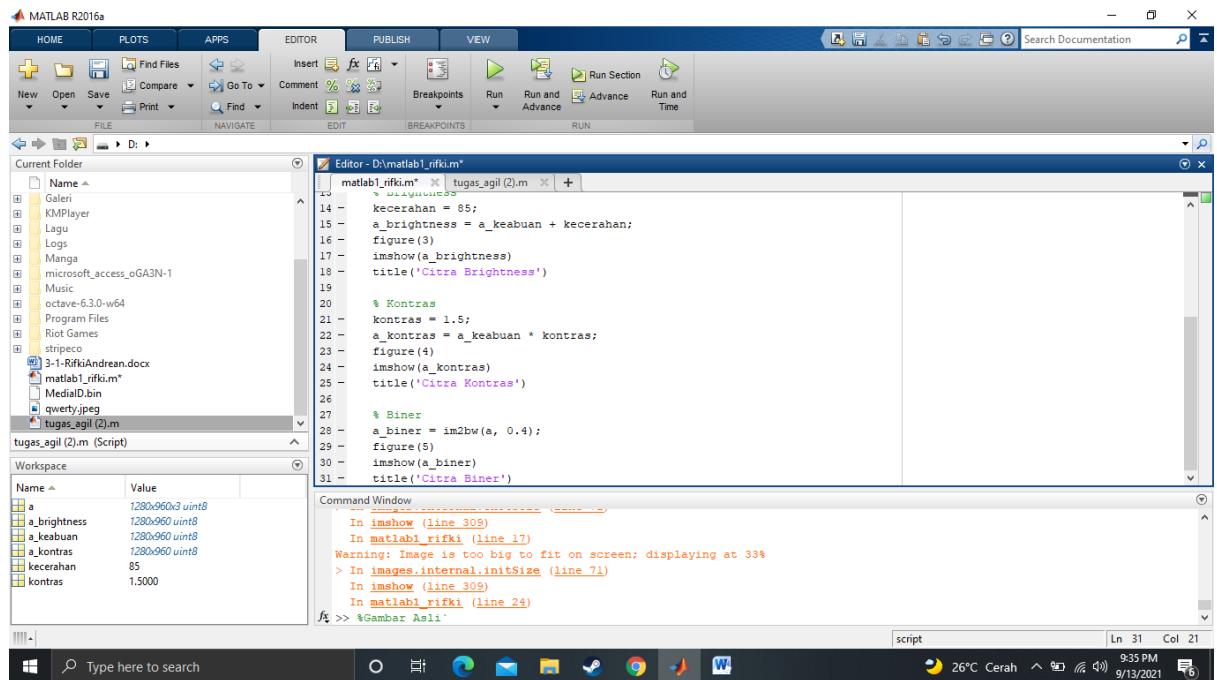
The screenshot shows the MATLAB R2016a interface. The current folder contains files like 'matlab1_rifki.m', 'tugas_agil (2).m', and 'tugas_agil (2).m (Script)'. The workspace shows variables: 'a' (1280x960x3 uint8), 'a_brightness' (1280x960 uint8), 'a_keabuan' (1280x960 uint8), and 'kecerahan' (85). The Command Window displays the following output:

```
In imshow (Line 309)
In matlab1_rifki (line 10)
Warning: Image is too big to fit on screen; displaying at 33%
> In images.internal.initSize (line 7)
In imshow (Line 309)
In matlab1_rifki (line 17)
>>> %Gambar Asli
```

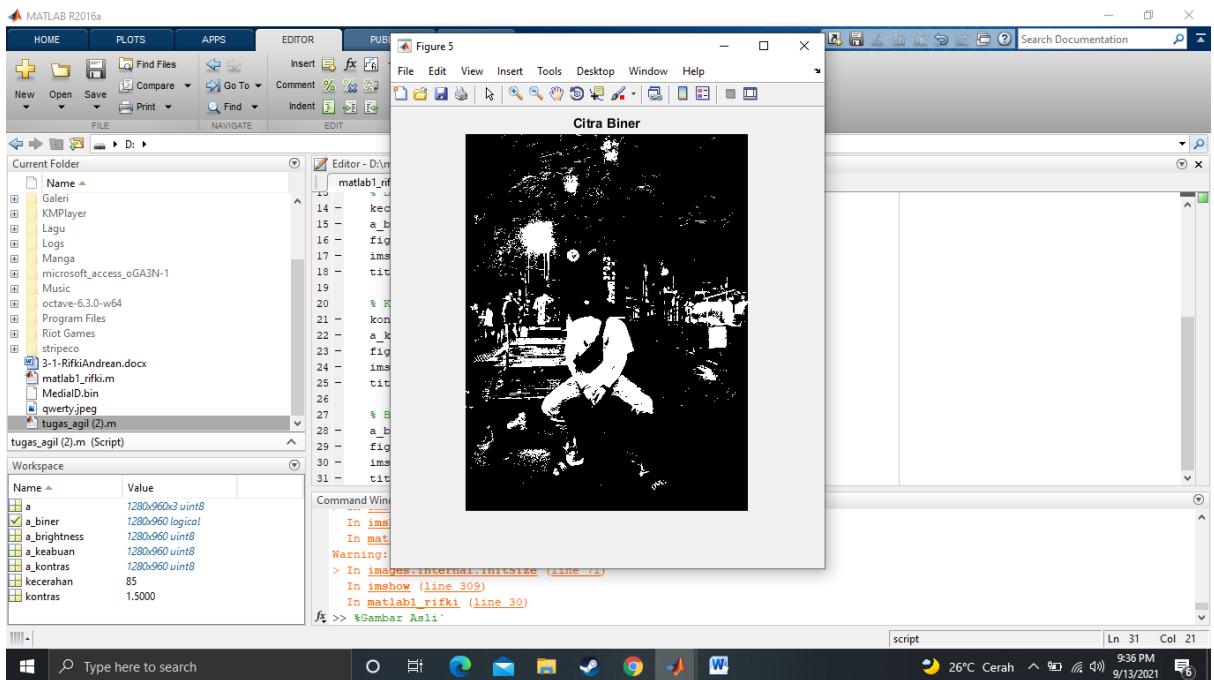
11. Kita RUN program-nya maka akan muncul Gambar hasil citra Kontras



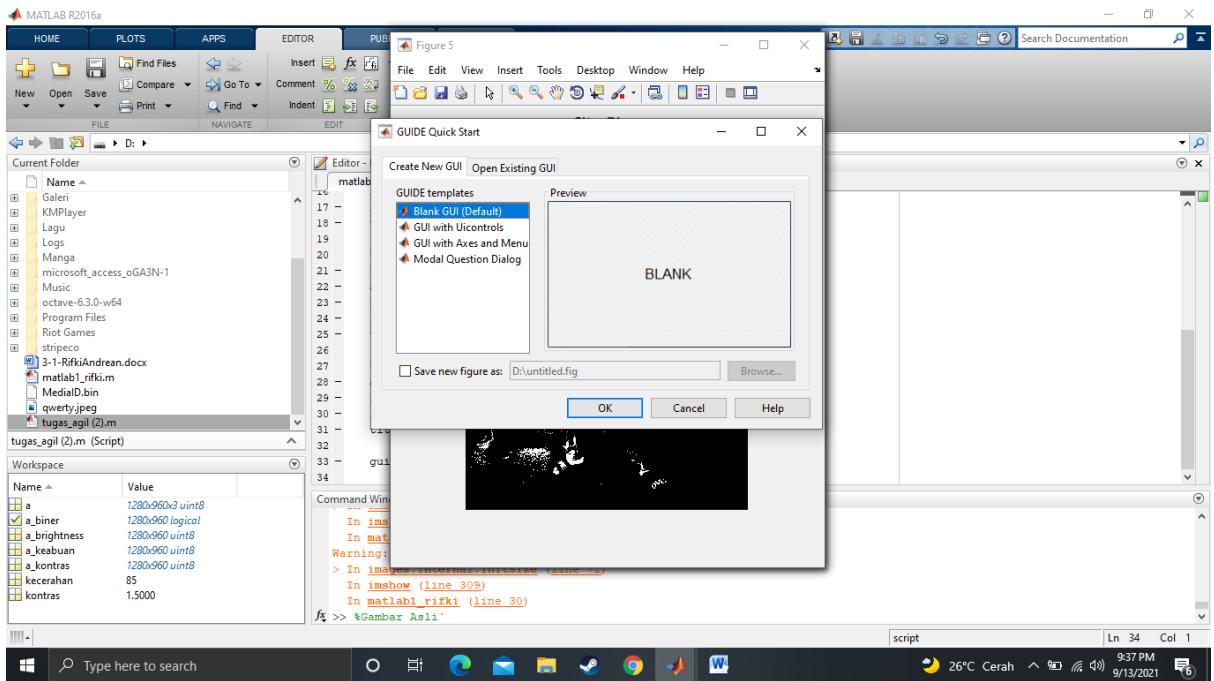
12. Untuk Citra Biner dengan program seperti Digambar



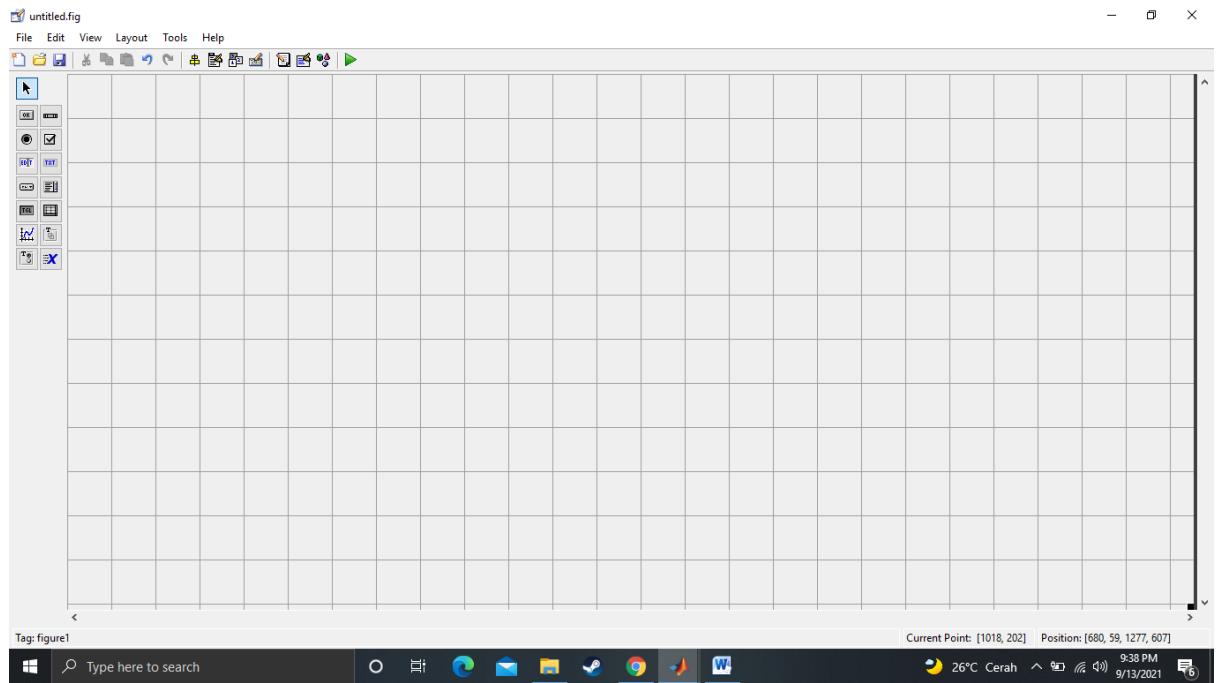
13. Kita RUN program-nya maka akan muncul Gambar hasil citra Biner



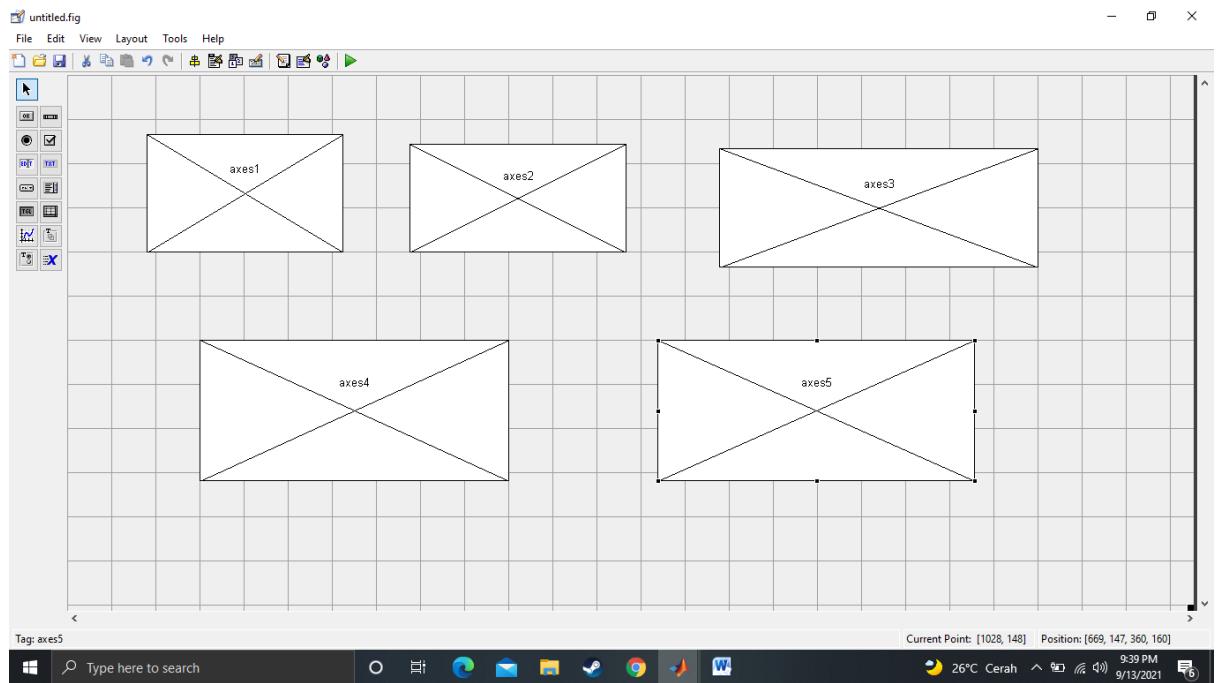
14. Selanjutnya kita membuat GUI, dengan menulis guide klik RUN maka akan muncul tampilan seperti gambar



15. Pilih menu Create New GUI, Selanjutnya pilih blank GUI lalu OK, Tampilan awal GUI seperti pada gambar

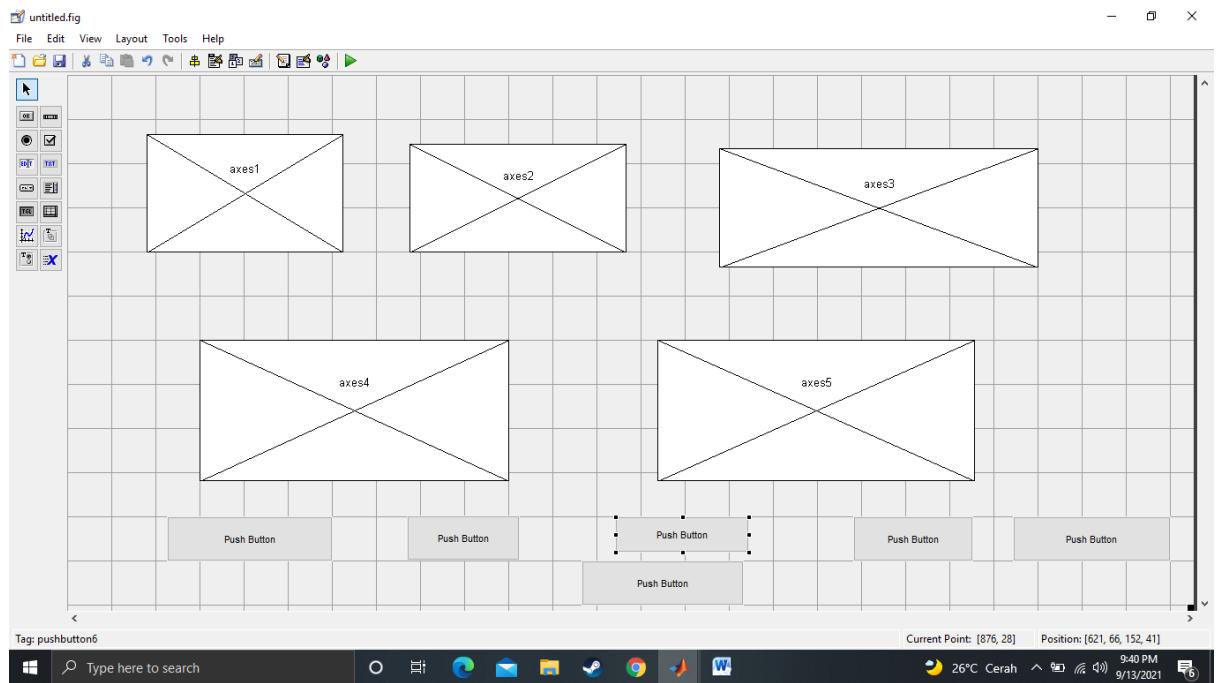


16. Pilih Axes baru buat Axes sebanyak 5 kotak lalu sesuaikan letaknya seperti pada gambar

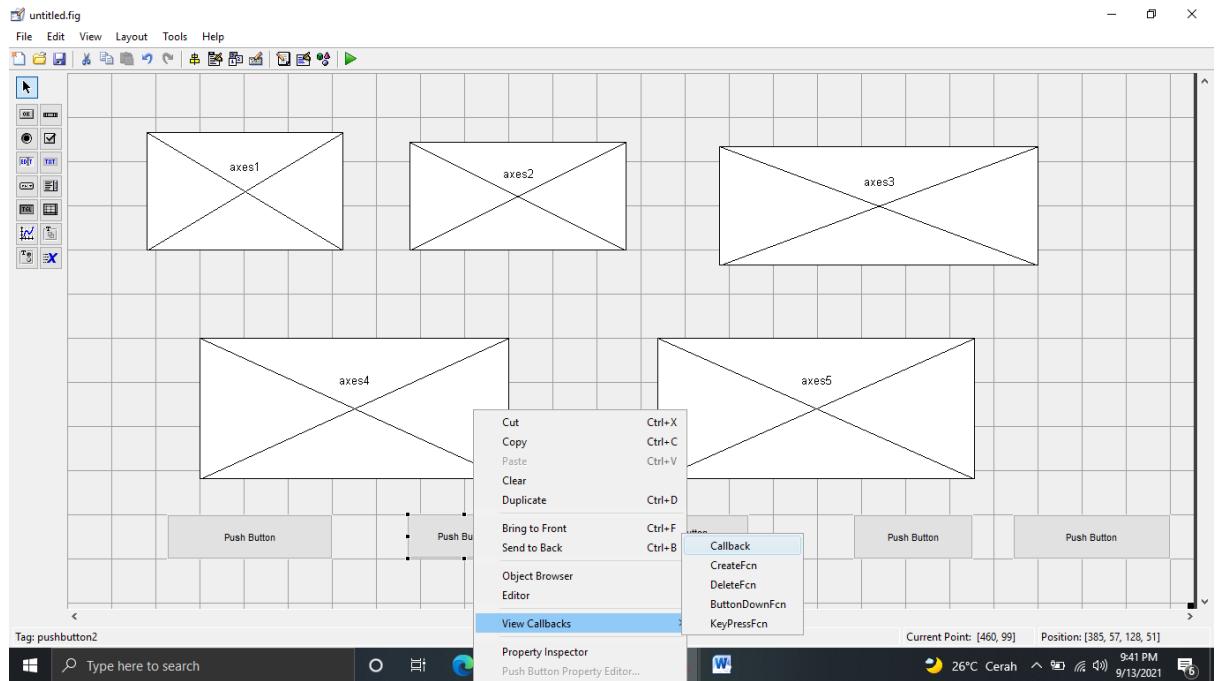


17. Pilih Push Button baru buat Push Button sebanyak 5 kotak lalu sesuaikan letaknya

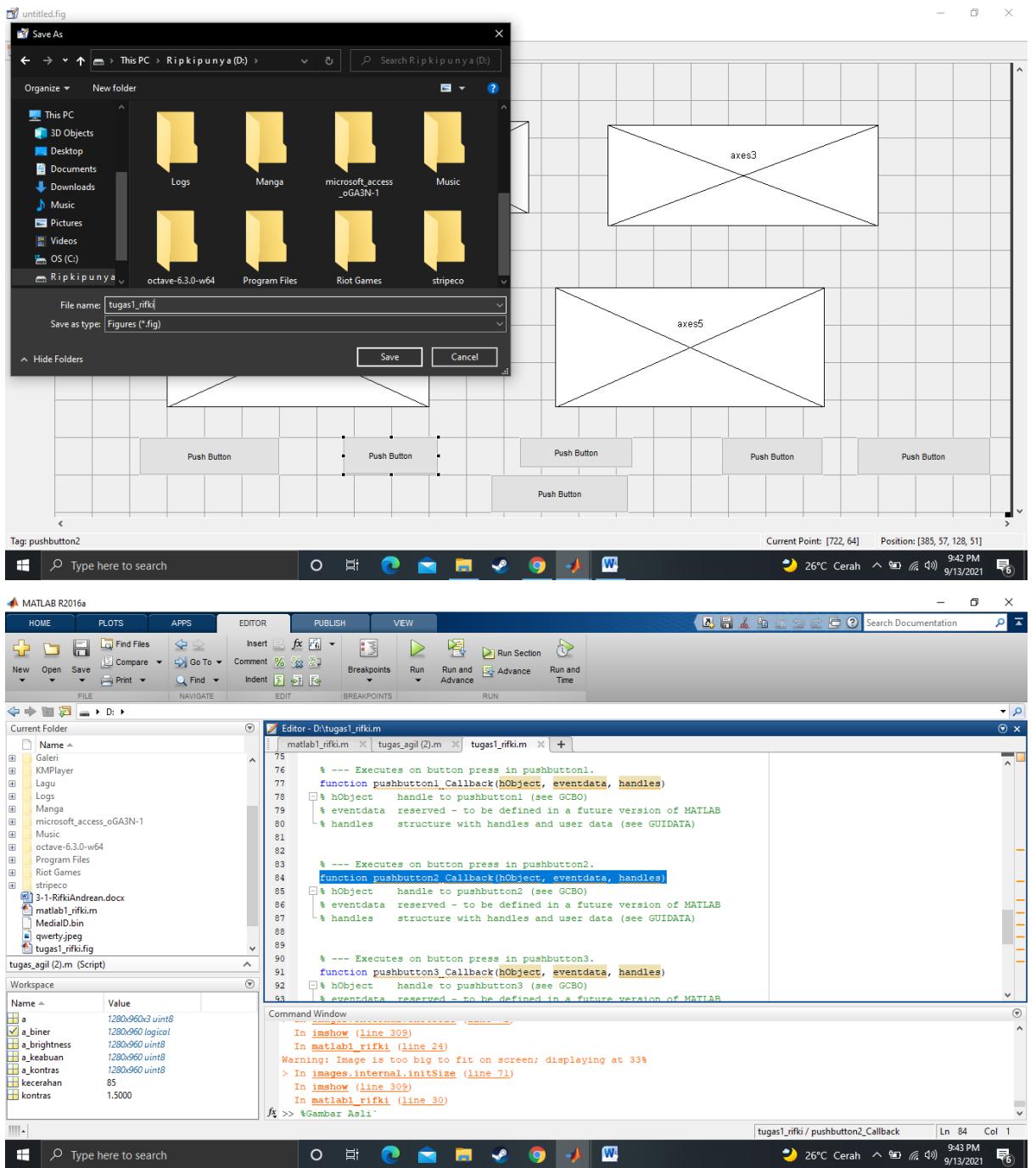
seperti pada gambar



18. Clik salah satu Push Button baru klik kanan view callbacks lalu callback kita akan menyimpan filenya

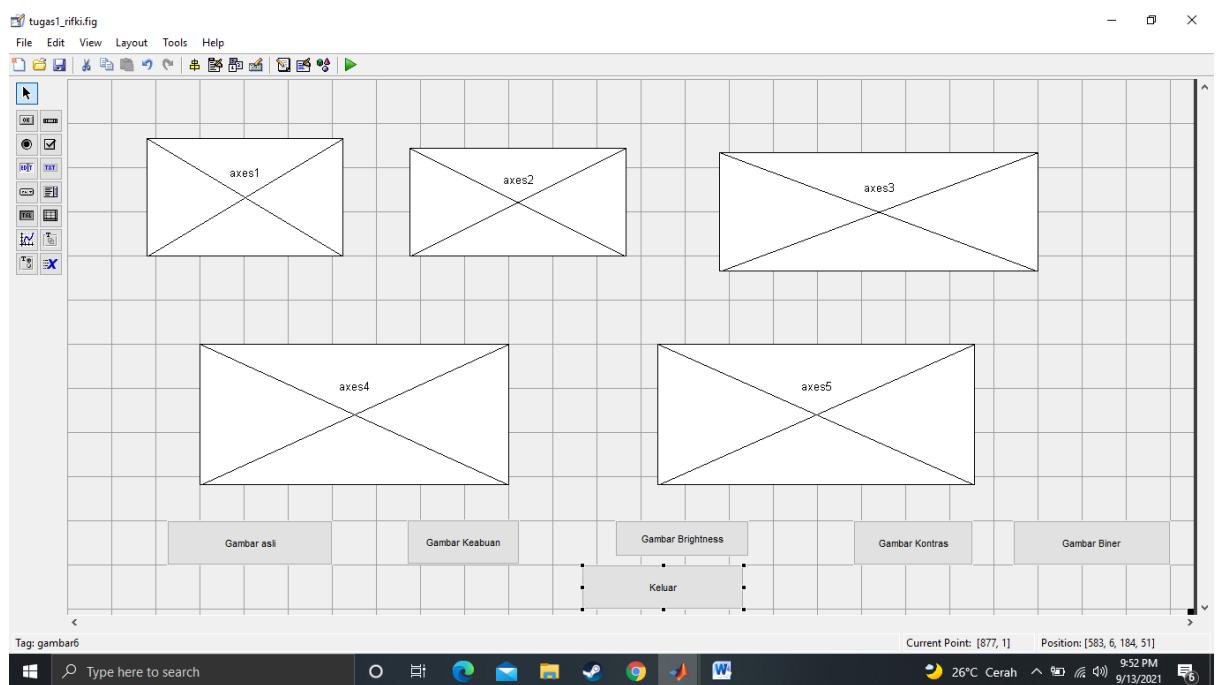
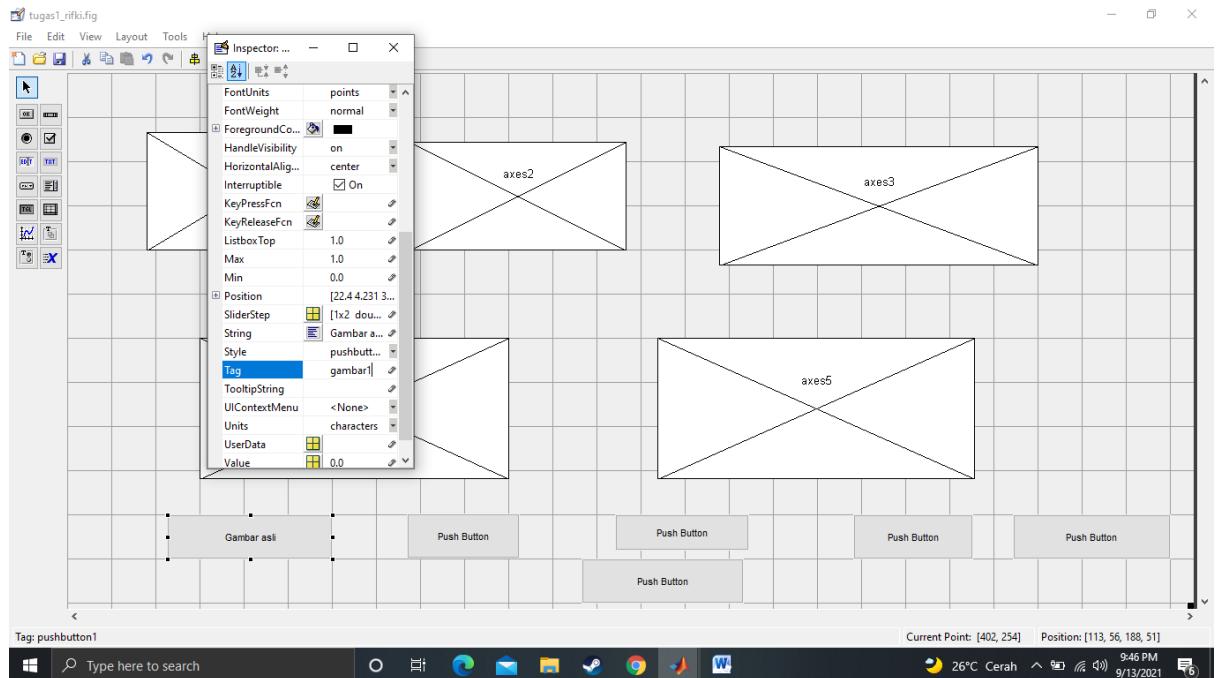


19. Maka akan muncul file seperti ini di MATLAB



20. Kemudian Kembali ke GUI klik 2 kali push button maka akan muncul pop-up cari

bagian string untuk memberikan nama pada tombolnya dan untuk bagian tag silahkan berikan gambar1, lakukan hal ini pada tombol lainnya khusus untuk tag lanjutkan dari gambar1, gambar2, ... dst.



21. Langkah selanjutnya memasukkan program ke dalam GUI, pada tombol gambar asli silahkan masukkan program seperti pada gambar

MATLAB R2016a

```

Editor - D:\tugas1_rifki.m
matlab1_rifki.m  tugas_agil (2).m  tugas1_rifki.m  untitled.m + | |
68 % hObject handle to figure
69 % eventdata reserved - to be defined in a future version of MATLAB
70 % handles structure with handles and user data (see GUIDATA)
71
72 % Get default command line output from handles structure
varargout{1} = handles.output;
73
74
75
76 % --- Executes on button press in gambar1.
77 function gambar1_Callback(hObject, eventdata, handles)
78 % hObject handle to gambar1 (see GCBO)
79 % eventdata reserved - to be defined in a future version of MATLAB
80 % handles structure with handles and user data (see GUIDATA)
81 a = imread ('qwert3.jpeg');
82 axes(handles.axes1)
83 imshow(a);
84 title('Citra Berwarna')
85
86
Command Window
> In imshow (line 309)
> In matlab1_rifki (line 24)
Warning: Image is too big to fit on screen; displaying at 33%
> In images.internal.initSize (line 71)
> In imshow (line 309)
> In matlab1_rifki (line 30)
>> %Gambar Asli

```

22. Pada tombol Citra Keabuan silahkan masukkan program seperti pada gambar

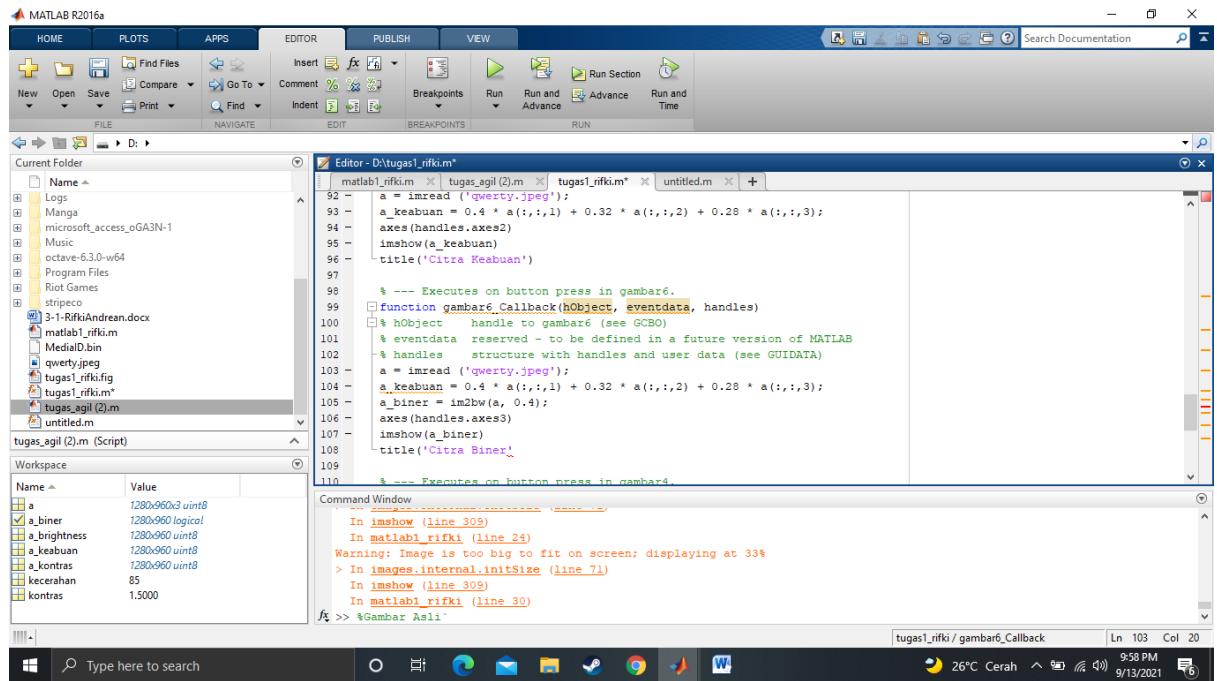
MATLAB R2016a

```

Editor - D:\tugas1_rifki.m*
matlab1_rifki.m  tugas_agil (2).m  tugas1_rifki.m*  untitled.m + | |
70 % eventdata reserved - to be defined in a future version of MATLAB
71 % handles structure with handles and user data (see GUIDATA)
72 a = imread ('qwert3.jpeg');
73 axes(handles.axes1)
74 imshow(a);
75 title('Citra Berwarna')
76
77
78 % --- Executes on button press in gambar2.
79 function gambar2_Callback(hObject, eventdata, handles)
80 % hObject handle to gambar2 (see GCBO)
81 % eventdata reserved - to be defined in a future version of MATLAB
82 % handles structure with handles and user data (see GUIDATA)
83 a = imread ('qwert3.jpeg');
84 a_keabuan = 0.4 * a(:,:,1) + 0.32 * a(:,:,2) + 0.28 * a(:,:,3);
85 axes(handles.axes2)
86 imshow(a_keabuan)
87 title('Citra Keabuan')
88
89
90
91
92
93
94
95
96
97
Command Window
> In imshow (line 309)
> In matlab1_rifki (line 24)
Warning: Image is too big to fit on screen; displaying at 33%
> In images.internal.initSize (line 71)
> In imshow (line 309)
> In matlab1_rifki (line 30)
>> %Gambar Asli

```

23. Pada tombol Citra Biner silahkan masukkan program seperti pada gambar

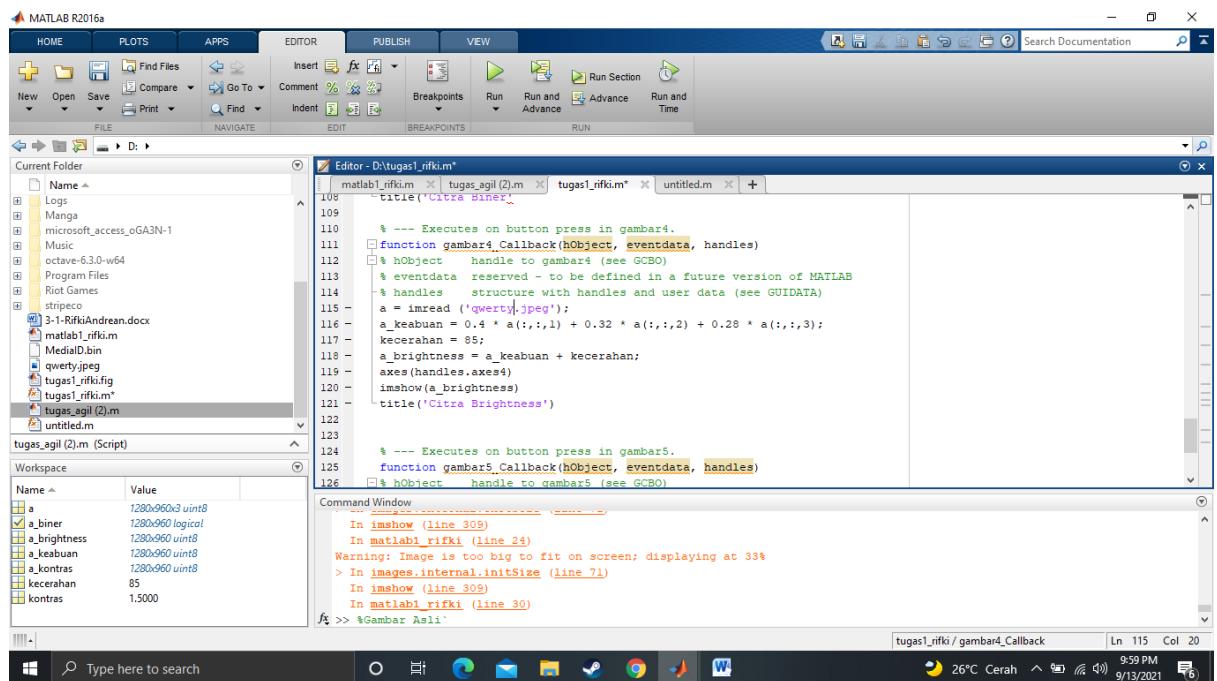


```

MATLAB R2016a
HOME PLOTS APPS EDITOR PUBLISH VIEW
New Open Save Find Files Compare Go To Insert Comment Breakpoints Run Run and Advance Run and Time
FILE EDIT BREAKPOINTS RUN
D:\ Current Folder Editor - D:\tugas1_rifki.m*
matlab1_rifki.m tugas_agil (2).m tugas1_rifki.m* untitled.m
92 - a = imread ('qwertv.jpeg');
93 - a_keabuan = 0.4 * a(:,:,1) + 0.32 * a(:,:,2) + 0.28 * a(:,:,3);
94 - axes(handles.axes2)
95 - imshow(a_keabuan)
96 - title('Citra Keabuan')
97 -
98 - % --- Executes on button press in gambar6.
99 - function gambar6_Callback(hObject, eventdata, handles)
100 - % hObject handle to gambar6 (see GCBO)
101 - % eventdata reserved - to be defined in a future version of MATLAB
102 - % handles structure with handles and user data (see GUIDATA)
103 - a = imread ('qwertv.jpeg');
104 - a_keabuan = 0.4 * a(:,:,1) + 0.32 * a(:,:,2) + 0.28 * a(:,:,3);
105 - a_biner = im2bw(a, 0.4);
106 - axes(handles.axes3)
107 - imshow(a_biner)
108 - title('Citra Biner')
109 -
110 - % --- Executes on button press in gambar4.
Command Window
> In imshow (Line 309)
> In matlab1_rifki (line 24)
Warning: Image is too big to fit on screen; displaying at 33%
> In images.internal.initSize (line 71)
> In imshow (Line 309)
> In matlab1_rifki (line 30)
fx >> %Gambar Asli

```

24. Pada tombol Citra Brightness silahkan masukkan program seperti pada gambar

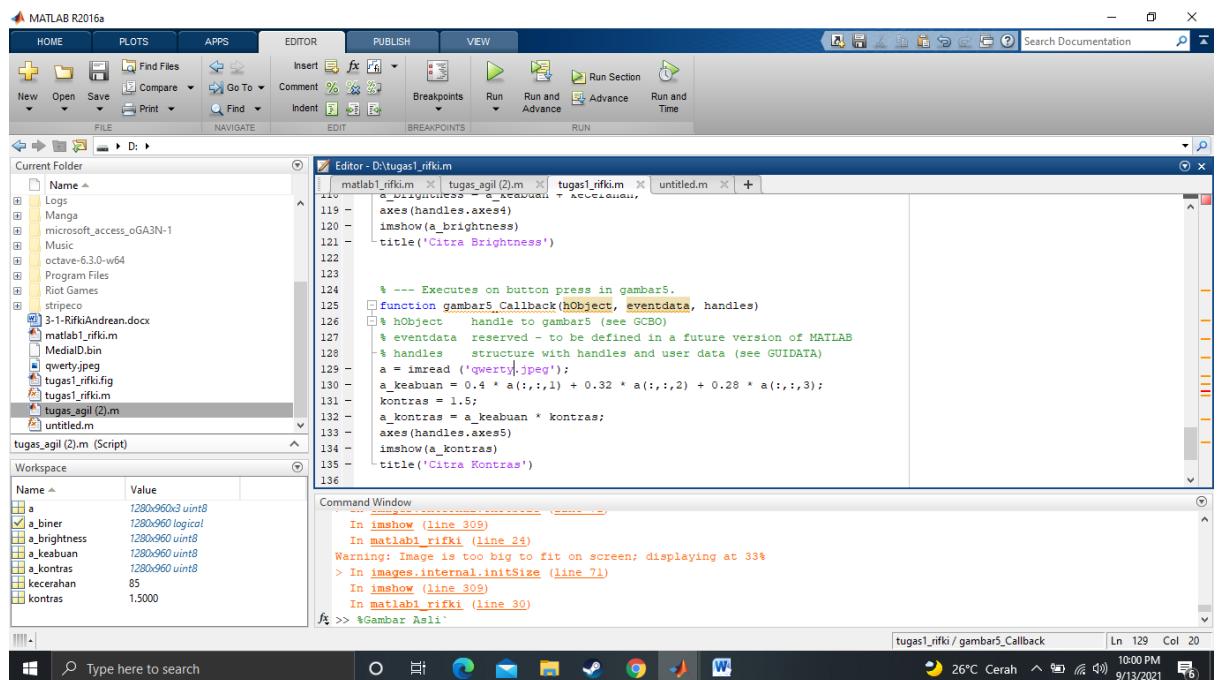


```

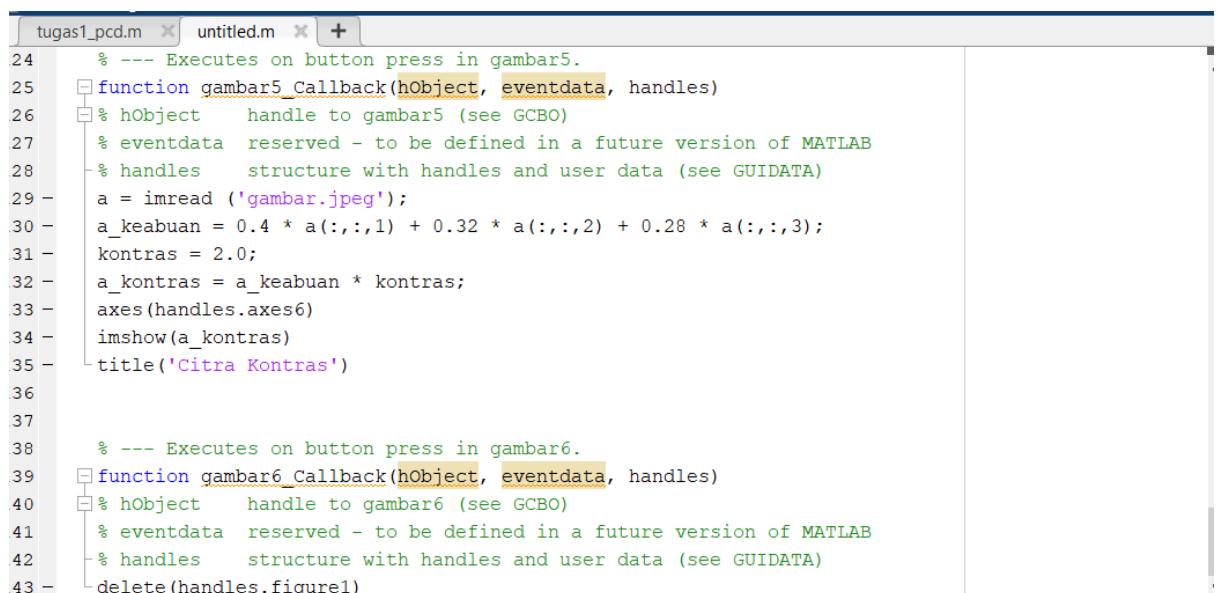
MATLAB R2016a
HOME PLOTS APPS EDITOR PUBLISH VIEW
New Open Save Find Files Compare Go To Insert Comment Breakpoints Run Run and Advance Run and Time
FILE EDIT BREAKPOINTS RUN
D:\ Current Folder Editor - D:\tugas1_rifki.m*
matlab1_rifki.m tugas_agil (2).m tugas1_rifki.m* untitled.m
108 - title('Citra Biner')
109 -
110 - % --- Executes on button press in gambar4.
111 - function gambar4_Callback(hObject, eventdata, handles)
112 - % hObject handle to gambar4 (see GCBO)
113 - % eventdata reserved - to be defined in a future version of MATLAB
114 - % handles structure with handles and user data (see GUIDATA)
115 - a = imread ('qwertv.jpeg');
116 - a_keabuan = 0.4 * a(:,:,1) + 0.32 * a(:,:,2) + 0.28 * a(:,:,3);
117 - kecerahan = 85;
118 - a_brightness = a_keabuan + kecerahan;
119 - axes(handles.axes4)
120 - imshow(a_brightness)
121 - title('Citra Brightness')
122 -
123 -
124 - % --- Executes on button press in gambar5.
125 - function gambar5_Callback(hObject, eventdata, handles)
126 - % hObject handle to gambar5 (see GCBO)
Command Window
> In imshow (Line 309)
> In matlab1_rifki (line 24)
Warning: Image is too big to fit on screen; displaying at 33%
> In images.internal.initSize (line 71)
> In imshow (Line 309)
> In matlab1_rifki (line 30)
fx >> %Gambar Asli

```

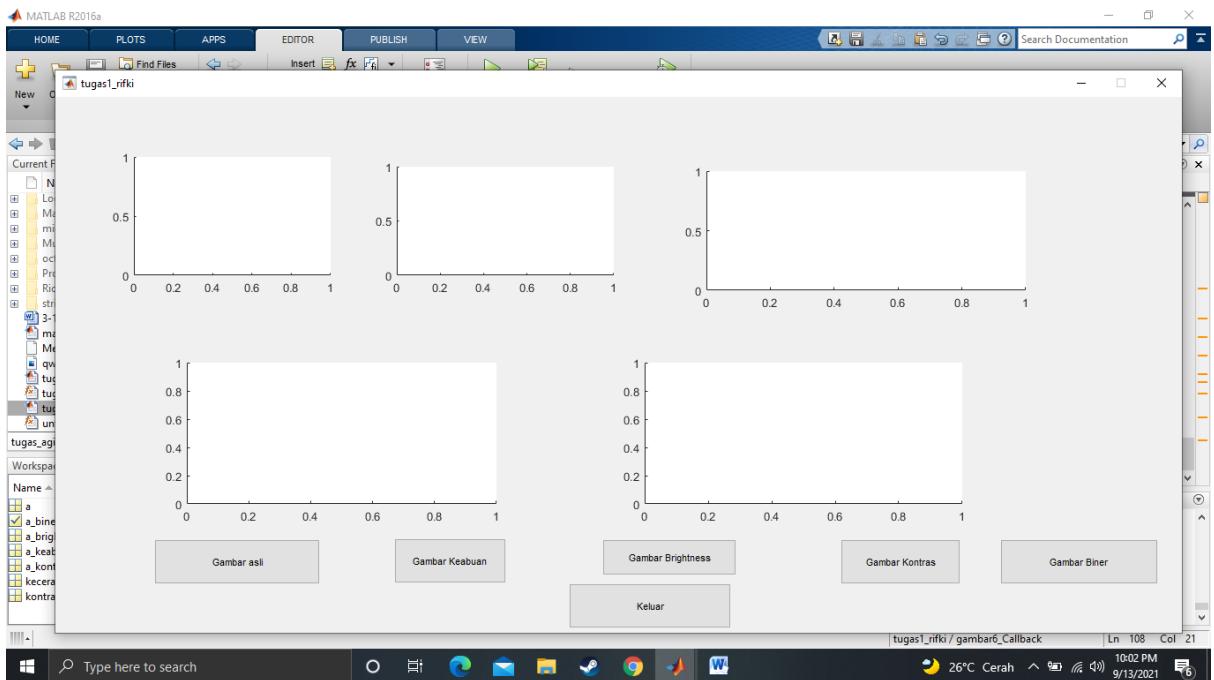
25. Pada tombol Citra Kontras silahkan masukkan program seperti pada gambar



26. Pada tombol Keluar silahkan masukkan program seperti pada gambar



27. Silahkan buka GUI lalu kita RUN, maka akan muncul tampilan seperti berikut



28. Klik semua tombol citra jika berhasil maka akan muncul gambar dan untuk tombol keluar jika tampilan hilang maka programnya berhasil

