

LAMPIRAN A
PERANGKAT LUNAK

Start.m

```
proyek=guidata(gcbo);

vid=videoinput('winvideo',1,'YUY2_320x240');
global vid;

vid2=videoinput('winvideo',2,'YUY2_320x240');
global vid2;

preview(vid)
preview(vid2)
```

Capture.m

```
proyek=guidata(gcbo);

global vid;
pic=getsnapshot(vid);
picrgb=ybcr2rgb(pic);
imwrite(picrgb,'kananfinal.jpg','quality',100);

global vid2;
pic2=getsnapshot(vid2);
picrgb2=ybcr2rgb(pic2);
imwrite(picrgb2,'kirifinal.jpg','quality',100);

clear vid;
clear vid2;

set(proyek.figure1,'CurrentAxes',proyek.axes1);
set(imshow(picrgb));

set(proyek.figure1,'CurrentAxes',proyek.axes3);
set(imshow(picrgb2));
```

YCbCr.m

```
proyek=guidata(gcbo);

datargb=imread('kananfinal.jpg');
g=rgb2ycbcr(datargb);
f=g(:,:,1);

data2rgb=imread('kirifinal.jpg');
g2=rgb2ycbcr(data2rgb);
f2=g2(:,:,1);

set(proyek.figure1,'CurrentAxes',proyek.axes2);
set(imshow(f));
global f;

set(proyek.figure1,'CurrentAxes',proyek.axes4);
set(imshow(f2));
global f2;
```

Process.m

```
proyek=guidata(gcbo);

global f;
global f2;

[junk threshold]=edge(f, 'sobel');
[junk threshold]=edge(f2, 'sobel');

fudgeFactor=.5;
imedge=edge(f, 'sobel', threshold*fudgeFactor);
imedge2=edge(f2, 'sobel', threshold*fudgeFactor);

se90=strel('line',9,90);
se0=strel('line',3,0);
dil=imdilate(imedge,[se90 se0]);
dil2=imdilate(imedge2,[se90 se0]);

fill=imfill(dil, 'holes');
fill2=imfill(dil2, 'holes');

seD=strel('square',3);
final=imerode(fill,seD);
final2=imerode(fill2,seD);

final=imerode(final,seD);
final2=imerode(final2,seD);

x=imread('kanan kotak.jpg');
x2=imread('kiri kotak.jpg');
y=im2bw(x);
y2=im2bw(x2);

result=imsubtract(y2,final);
imwrite(result, 'hitungkanan.jpg', 'quality',100);

result2=imsubtract(y,final2);
imwrite(result2, 'hitungkiri.jpg', 'quality',100);

set(proyek.figure1, 'CurrentAxes',proyek.axes2);
set(imshow(final));

set(proyek.figure1, 'CurrentAxes',proyek.axes4);
set(imshow(final2));
```

Count.m

```
proyek=guidata(gcbo);

kiri=imread('hitungkiri.jpg');

x1b=[31 60 85 109 133 158 184 207 232 258 283 60 90 119 149 177
207 237 46 80 114 145 179 214 246]
```

```

y1b=[58 58 58 58 58 58 58 58 58 58 58 58 116 116 116 116 116 116
116 178 178 178 178 178 178 178 178];

x2b=[35 64 89 113 137 162 188 211 236 262 287 64 94 123 153 181
211 241 50 84 118 149 183 218 250];
y2b=[58 58 58 58 58 58 58 58 58 58 58 58 116 116 116 116 116 116
116 178 178 178 178 178 178 178 178];

x3b=[35 64 89 113 137 162 188 211 236 262 287 64 94 123 153 181
211 241 50 84 118 149 183 218 250];
y3b=[69 69 69 69 69 69 69 69 69 69 69 69 127 127 127 127 127 127
127 189 189 189 189 189 189 189];

x4b=[31 60 85 109 133 158 184 207 232 258 283 60 90 119 149 177
207 237 46 80 114 145 179 214 246];
y4b=[69 69 69 69 69 69 69 69 69 69 69 69 127 127 127 127 127 127
127 189 189 189 189 189 189 189];

mobil2=0;
p2=[0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0];
q2=[0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0];

for nb=1:25;
    putih2=0;
    for mb=y1b(nb):y3b(nb);
        for kb=x1b(nb):x2b(nb);
            if(kiri(mb,kb)>200)
                putih2=putih2+1;
            end
        end
    end
    end

    if putih2>28
        mobil2=mobil2+1;
        p2(nb)=0;
    else
        p2(nb)=1;
    end
end

t2 = {};
set(handles.listbox2, 'String', t2);

for i2 = 1 : 1 : 25
    if p2(i2)==0
        j2 = ['R ' num2str(i2)];
        t2 = [t2;j2];
    end
end

set(handles.listbox2, 'String', t2);

end

```

```

kanan=imread('hitungkanan.jpg');

x1=[33 57 83 108 134 158 182 207 232 256 287 75 106 136 166 196
227 257 65 99 134 167 202 236 270];
y1=[60 60 60 60 60 60 60 60 60 60 60 123 123 123 123 123 123
123 181 181 181 181 181 181 181];

x2=[37 61 87 112 138 162 186 211 236 260 291 79 110 140 170 200
231 261 69 103 138 171 206 240 274];
y2=[60 60 60 60 60 60 60 60 60 60 60 123 123 123 123 123 123
123 181 181 181 181 181 181 181];

x3=[37 61 87 112 138 162 186 211 236 260 291 79 110 140 170 200
231 261 69 103 138 171 206 240 274];
y3=[71 71 71 71 71 71 71 71 71 71 71 134 134 134 134 134 134
134 192 192 192 192 192 192 192];

x4=[33 57 83 108 134 158 182 207 232 256 287 75 106 136 166 196
227 257 65 99 134 167 202 236 270];
y4=[71 71 71 71 71 71 71 71 71 71 71 134 134 134 134 134 134
134 192 192 192 192 192 192 192];

mobil=0;
p=[0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0];
q=[0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0];

for n=1:25;
    putih=0;
    for m=y1(n):y3(n);
        for k=x1(n):x2(n);
            if(kanan(m,k)>200)
                putih=putih+1;
            end
        end
    end

    if putih>28
        mobil=mobil+1;
        p(n)=0;
    else
        p(n)=1;
    end

t = {};
set(handles.listbox1, 'String', t);

for i = 1 : 1 : 25
    if p(i)==0
        j = ['L ' num2str(i)];
        t = [t;j];
    end
end

set(handles.listbox1, 'String', t);

```

```
end

empty=mobil2+mobil;
fill=50-empty;

set(handles.filled,'string',fill);
set(handles.empty,'string',empty);

clear global f;
clear global f2;
```

Exit.m

```
delete(handles.figure1);
global vid;
closepreview(vid);
global vid2;
closepreview(vid2);
```