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examples of animation using plot() function

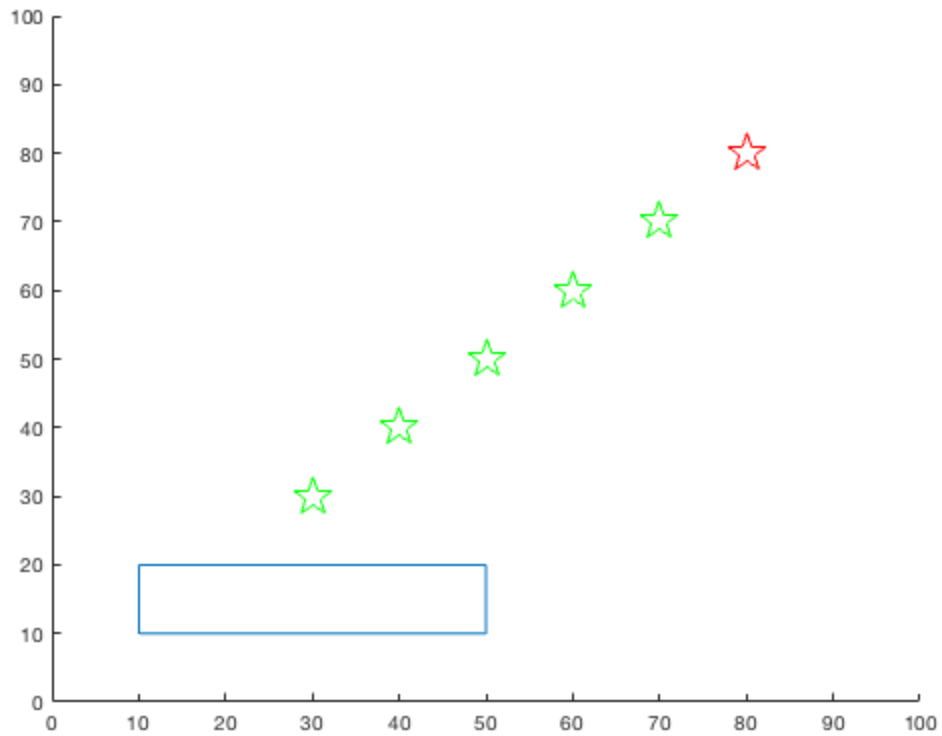
% by ReactorLab.net

the basics

```
close all
figure
axis([0 100 0 100])
hold on
% plot background objects
xbox = [ 10 50 50 10 10 ];
ybox = [ 10 10 20 20 10 ];
plot(xbox,ybox)

% set up for plotting moving object animation
y = 30;
x = 30;
msize = 20;
inc = 10; wait = 0.9;
% put moving object in starting location
% see help plot for info on plot options
plot(x,y,'rp','MarkerSize',msize)

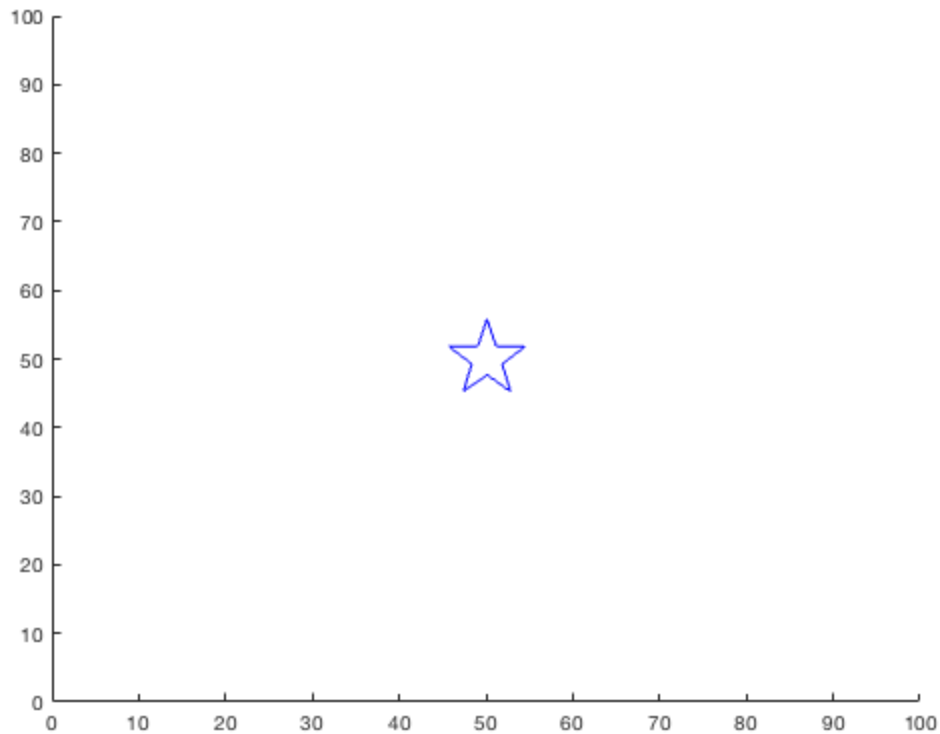
% repeat erasing and putting moving object in new location
for i = 1:5
    pause(wait)
    % "erase" object in current location
    % here for Publish use green pentagon (gp) to show tracks
    % use same as background color to erase
    plot(x,y,'gp','MarkerSize',msize)
    % update location
    x = x+inc;
    y = y+inc;
    % plot in new location
    plot(x,y,'rp','MarkerSize',msize)
end
```



set axes color - background color

```
close all
fprintf('BACKGROUND COLOR SHOWS ON SCREEN BUT WHITE ONLY IN PUBLISH
PDF')
figure
h = axes; % get "handle" to axes
% RGB value range for set(), 0.0 <= value <= 1.0
set(h, 'Color', [0.5 1 0.5]) % RGB values in []
axis([0 100 0 100])
hold on
plot(50,50, 'bp', 'MarkerSize', 40)
```

BACKGROUND COLOR SHOWS ON SCREEN BUT WHITE ONLY IN PUBLISH PDF



use ginput function to collect x,y coordinates for background objects

```
close all
figure
myAxis = [0 2000 0 2000]; % or axis scale of your choice
axis(myAxis)
hold on
fprintf('click left button to mark - click right button to stop \n\n')
b = 1; % mouse button number, left = 1, right = 3
i = 0; % array index
while b == 1
    i = i+1;
    [x(i) y(i) b] = ginput(1);
    if i > 1; plot(x(i-1:i),y(i-1:i)); end
end
hold off

xobj = round(x) % depends on axis scale if want to do this
yobj = round(y)

% use xobj and yobj coordinates in cell below

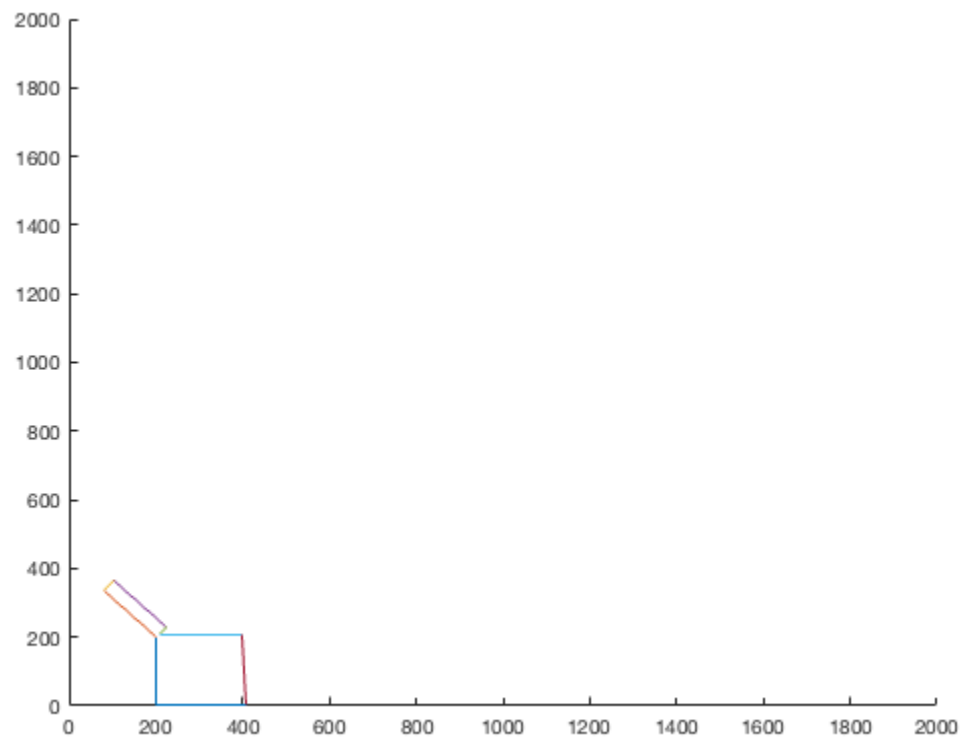
click left button to mark - click right button to stop
```

xobj =

200 200 81 104 224 210 399 408 200

yobj =

3 201 335 364 230 207 207 3 3



use background photo

```
close all
figure
hold on

% READ IN IMAGE FILE
myJPGfile = 'space.jpg';

% set up for plotting moving object animation
y = 300;
x = 300;
msize = 20;
inc = 100; wait = 0.9;
```

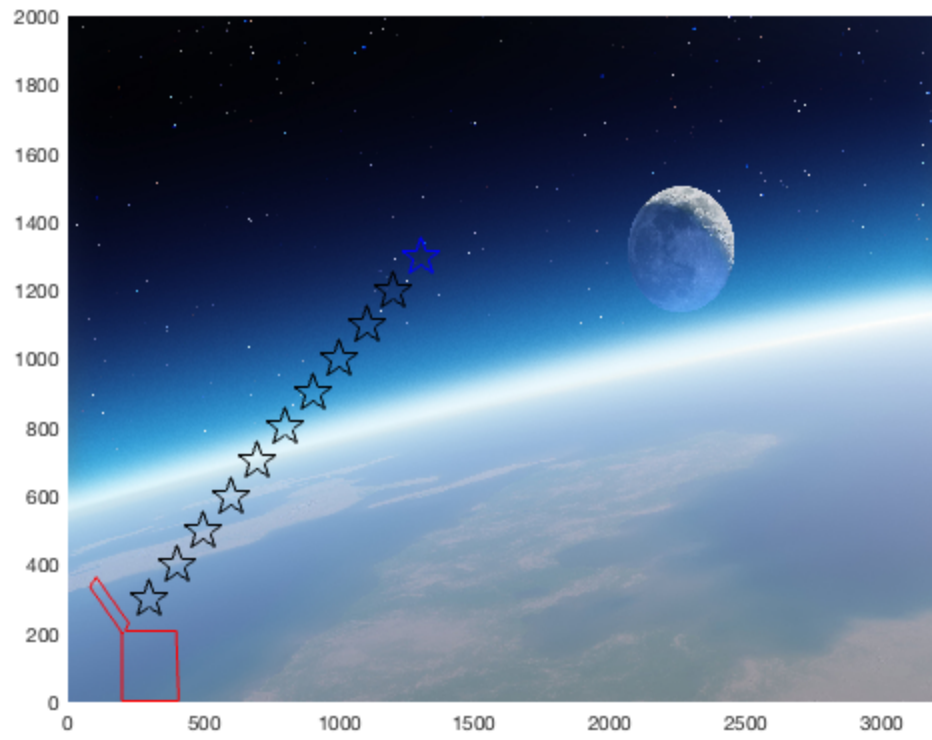
```
% ah = axes('unit', 'normalized', 'position', [0 0 1 1]);
% import the background image and show it on the axes
bg = imread(myJPGfile);
bg = flip(bg);
image(bg);

[r c p] = size(bg);
axis([0 max(c) 0 max(r)])
% turn the axis off
% set(ah,'handlevisibility','off','visible','off')

% use xobj and yobj object coordinates from cell above
plot(xobj,yobj,'r')

% put moving object in starting location
% see help plot for info on plot options
% plot(x,y,'bp','MarkerSize',msize)

% repeat erasing and putting moving object in new location
for i = 1:10
    pause(wait)
    % "erase" object in current location
    plot(x,y,'kp','MarkerSize',msize) % change to black - k
    % update location
    x = x+inc;
    y = y+inc;
    % plot in new location
    plot(x,y,'bp','MarkerSize',msize)
end
```



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