**Robotiğe Giriş Projesi**

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**Forward Kinematiği Kod bloğu**

**{**

% --- Executes on button press in btn\_forward.

function btn\_forward\_Callback(hObject, eventdata, handles)

% hObject handle to btn\_forward (see GCBO)

% eventdata reserved - to be defined in a future version of MATLAB

% handles structure with handles and user data (see GUIDATA)

Th\_1 = str2double(handles.Theta\_1.String)\*pi/180;

Th\_2 = str2double(handles.Theta\_2.String)\*pi/180;

Th\_3 = str2double(handles.Theta\_3.String)\*pi/180;

L\_1 = 20;

L\_2 = 50;

L\_3 = 40;

L(1) = Link([0 L\_1 0 pi/2]);

L(2) = Link([0 0 L\_2 0]);

L(3) = Link([0 0 L\_3 0]);

Robot = SerialLink(L);

Robot.name = 'Alinin Robotu';

Robot.plot([Th\_1 Th\_2 Th\_3]);

T = Robot.fkine([Th\_1 Th\_2 Th\_3]);

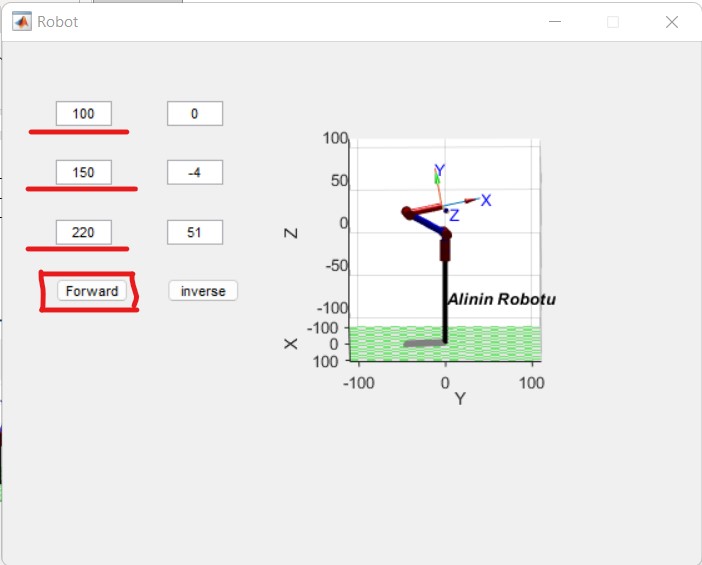
H = T.T();

handles.Pos\_X.String = num2str(floor(H(1,4)));

handles.Pos\_Y.String = num2str(floor(H(2,4)));

handles.Pos\_Z.String = num2str(floor(H(3,4)));

**}**

** **

**İnverse Kinematiği Kod Bloğu {**

% --- Executes on button press in btn\_inverse.

function btn\_inverse\_Callback(hObject, eventdata, handles)

% hObject handle to btn\_inverse (see GCBO)

% eventdata reserved - to be defined in a future version of MATLAB

% handles structure with handles and user data (see GUIDATA)

PX = str2double(handles.Pos\_X.String);

PY = str2double(handles.Pos\_Y.String);

PZ = str2double(handles.Pos\_Z.String);

L\_1 = 20;

L\_2 = 50;

L\_3 = 40;

L(1) = Link([0 L\_1 0 pi/2]);

L(2) = Link([0 0 L\_2 0]);

L(3) = Link([0 0 L\_3 0]);

Robot = SerialLink(L);

Robot.name = 'Alinin Robotu';

T = [ 1 0 0 PX;

0 1 0 PY;

0 0 1 PZ;

0 0 0 1 ];

J = Robot.ikine(T, [0 0 0],'mask',[1 1 1 0 0 0]) \* 180/pi;

disp(J);

handles.Theta\_1.String = num2str(floor(J(1)));

handles.Theta\_2.String = num2str(floor(J(2)));

handles.Theta\_3.String = num2str(floor(J(3)));

Robot.plot(J\*pi/180);

**}**

