MATLAB CODING

“%” – Used to comment out

% =====READING OF DATA

> carData = importfile(‘\filepath\filename.xlsx’) % Imports filename.xlsx

% =====VIEWING OF DATA

> summary(carData(:, (‘RatedHP’, ‘MPG’))) % Views the summary of RatedHP and MPG column

% =====SORTING OF DATA

> carIDs = carData.CarTruck == ‘car’ % Assigning the string car from the column Cartalk to a new function CarIDs

% =====COLLECTING OF DATA FROM USER

>> && Beginning of the programming & Comments out code

>> x = disp(‘Statement ’) & Prints out statement

>> x = input(‘Statement? ’) & Print statement and collects input

% =====DRAWING OBJECTS

>> patch([a1, b1,c1,d1], [a2,b2,c2,d2], [a3, b3,c3,d3], ‘color’) & Draw a 2d or 3d rectangular object fill with coordinates ‘a, b, c, d’ with chosen color (anti-clockwise for rectangle)

>> x = [a1, b1,c1,d1]

>> y = [a2,b2,c2,d2]

>> z = [a3, b3,c3,d3]

>> patch(x, y, z, ‘color’) & Same as above command for 2d or 3d polygon (clockwise for triangle)

>> x2 = [2 5; 2 5; 8 8];

>> y2 = [4 0; 8 2; 4 0];

>> patch(x2,y2,'green');

===Drawing a box with length breadth and height using patch======

l = 3;

b = 2;

h = 2;

Pb = patch(app.UIAxes, [0,b,b,0], [0,0,l,l], [0,0,0,0], 'blue')

view(app.UIAxes,[2 4 -5])

Pt = patch(app.UIAxes, [0,b,b,0], [0,0,l,l], [h,h,h,h], 'yellow')

Eb = patch(app.UIAxes, [b,b,b,b], [0,0,l,l], [0,h,h,0], 'red')

Ef = patch(app.UIAxes, [0,0,0,0], [0,0,l,l], [0,h,h,0], 'green')

Ff = patch(app.UIAxes, [b,b,0,0], [0,0,0,0], [0,h,h,0], 'yellow')

Fb = patch(app.UIAxes, [b,b,0,0], [l,l,l,l], [0,h,h,0], 'yellow')

=====================================================================

===Simpler way of drawing a cube===

vert = [0 0 0;1 0 0;1 1 0;0 1 0;0 0 1;1 0 1;1 1 1;0 1 1];

fac = [1 2 6 5;2 3 7 6;3 4 8 7;4 1 5 8;1 2 3 4;5 6 7 8];

patch('Vertices',vert,'Faces',fac,...

'FaceVertexCData',hsv(6),'FaceColor','flat')

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**Solution to Samri Question**

&& Beginning of the programming

X = menu(‘Do you want to start a new model? ’, ‘Yes’, ‘No’);

If x == 1

nufloors = input(‘Input number of floors: ’);

if floors > currentfloor

nurooms = input(‘Input number of rooms: ’);

if nurooms > currentroom

width = input(‘Input width of room: ’);

height = input(‘Input height of room: ’);

depth = input(‘Input depth of rooms: ’);

roomtype = menu(‘Type of room: ’, ‘residential’, ‘office’, ‘education’, ‘toilet’, ‘storage’);

coordinates = input(‘Input x and y coordinates: ’);

else

displ(‘Go to the next floor’);

% Find a way to connect back to the number of rooms

else

floorplan = menu(‘Do you want to view the floor plan’, ‘Yes’, ‘No’)

if floorplan == 1

nufloor = input(‘Input floor number you want to view: ’);

% command to display floor plan

buildingreport = menu(‘Do you want to generate report’, ‘Yes’, ‘No’);

if buildingreport == 1

% display report command

% save design command

% end

else

buildingreport = menu(‘Do you want to generate report’, ‘Yes’, ‘No’);

if buildingreport == 1

% display report command

% save design command

% end

% Steps

% Create Yes and No button.

% Define button callback as ‘buttonPressed’

% Define the function of yes and no button

% Define input field

>> function buttonPressed(app, event)

True = app.YesButton.Value;

nufloors = app.NuFloorsEditField.Value;

currentfloor = 1

if nufloors > currentfloor