**ICP2021 Lab 4 report**

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Question 1.

figure,hold on;

grid off;

axis off;

circleflag = true;

plot(0.5,0.5,'.r','MarkerSize',100);

plot([0 1 1 0 0],[0 0 1 1 0],'Color' , [0.62 0.23 0.23] ,...

'LineStyle' , '--', 'markersize',2); % Creates the grid and circle

axis([-0.3 1.3 -0.3 1.3]);

color = uicontrol; % Creates the buttons

shape = uicontrol;

% Assigns a title, position and a callback to each button

set(color, 'String','Color', 'Position', [10, 10, 250, 30],...

'Callback', 'plot([0 1 1 0 0],[0 0 1 1 0],''Color'' , rand(1,3) , ''LineStyle'' , ''--'', ''MarkerSize'',2)')

set(shape, 'String','Shape', 'Position', [300, 10, 250, 30],...

'Callback', 'fill([0.4 0.6 0.6 0.4 0.4], [0.4 0.4 0.6 0.6 0.4], rand(1,3))')

fs = 8000; % the sampling frequency

t25 = 0:1/fs:0.3; % time of sound

while ~waitforbuttonpress % when the button is pressed

axis([-0.3 1.3 -0.3 1.3]);

point = get(gca,'CurrentPoint');

stepSize = (point-0)/(20);

j = 0

for i = 0:stepSize:point % loop towards point

fill([i i+0.1 i+0.1 i i],[i i i+0.1 i+0.1 i], [1 0 1])

% fill in a new shape at every point

C = 2\*261.63 + j % increment the sound

j = j + 13

y = [sin(C\*100\*2\*pi\*t25) 0];

sound(y,fs)% play a sound at every point

pause(1)

end

end

