AddCoinToCountAndPlot

Create a function **AddCoinToCountAndPlot**, which you will use in your final project script. The function take image, **cls**, its classification label indicating whether it was found to be a dime, nickel, or quarter. The functio also plots, in the current figure, a circle centered at **x** and **y** with radius and color unique for each coin type a **x_plot** and **y_plot**, the list of **x** and **y** coordinates of the vertices of the circle being plotted. **x_plot** should be The function also has a 4th output **col**, the color string of the circle plotted.

The steps to perform in the function are as follows:

- Initialize coin radius and color parameters
- Use an if-elseif statement to determine **coinvalue**, **x_plot**, **y_plot**, and colorcode **col** unique for eac

	Dime	Nickel	Quarter
Radius	22	30	40
Color	red	green	magenta
Value	10	5	25

When running the example code below, your function should result in identical output to this:

```
coinvalue =

    25


x_plot =

  Columns 1 through 18

   41.2000   40.4314   38.1552   34.4588   29.4843   23.4228   16.5073    9.0036    1.2000   -6.6036  -14.1073  -21.0228

  Columns 19 through 33

  -35.7552  -32.0588  -27.0843  -21.0228  -14.1073   -6.6036    1.2000    9.0036   16.5073   23.4228   29.4843   34.4588


y_plot =

  Columns 1 through 18

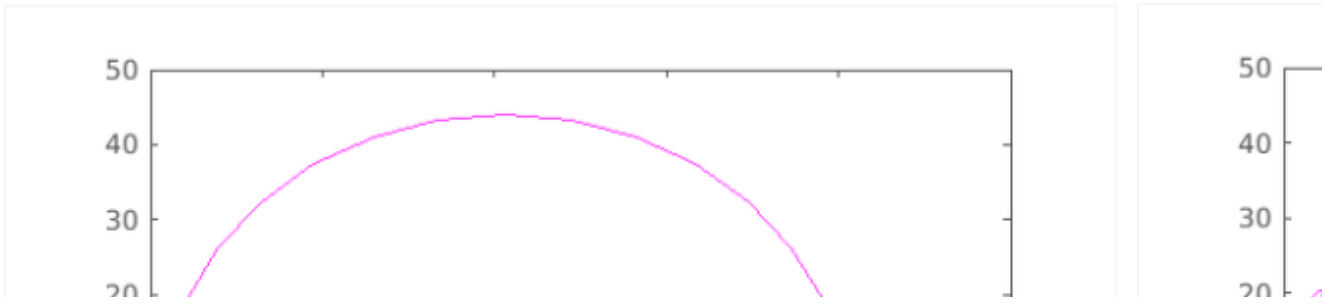
    4.1000   11.9036   19.4073   26.3228   32.3843   37.3588   41.0552   43.3314   44.1000   43.3314   41.0552   37.3588

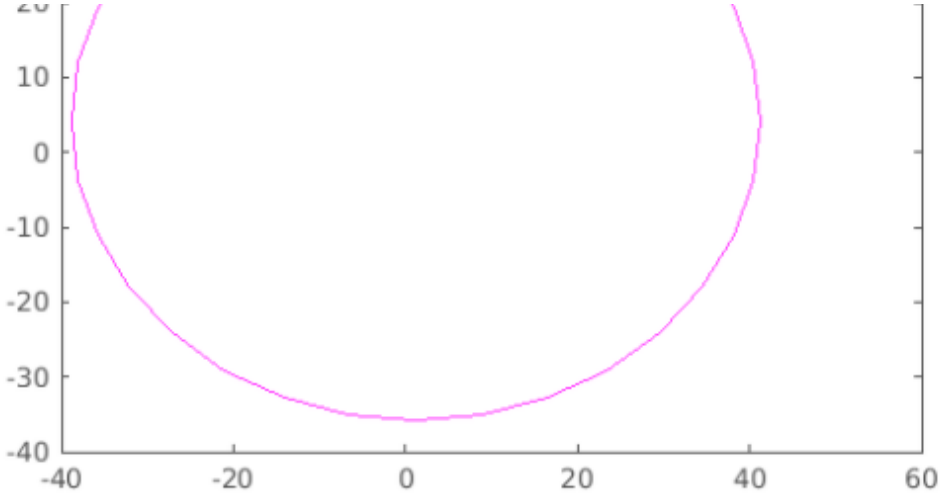
  Columns 19 through 33

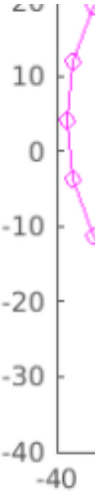
  -11.2073  -18.1228  -24.1843  -29.1588  -32.8552  -35.1314  -35.9000  -35.1314  -32.8552  -29.1588  -24.1843  -18.1228


col =

    'm'
```







Function

Save Reset MATLAB Documentation (https://www.mathworks.com/help/)

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```

```
29 function [coinvalue,x_plot,y_plot,col] = AddCoinToPlotAndCount(x,y,cls)
30 % initialize radians for defining x_plot and y_plot using cos and sin functi
31 rads = 0:2*pi/32:2*pi;
```

Code to call your function

Reset

```
1 x=1.2;
2 y=4.1;
3 cls = 3;
4 [coinvalue,x_plot,y_plot,col] = AddCoinToPlotAndCount(x,y,cls)
5 figure
6 plot(x_plot,y_plot,[col,'o-'])
```

Run Function

Assessment: All Tests Passed

Submit

- ✓ **Is coinvalue correct?**
- ✓ **Is x_plot correct for random centroid?**
- ✓ **Is y_plot correct for random centroid?**