a) PART 2

 Create the method part2() that reads an image from input.ppm and creates the output.ppm obtained after applying k-means algorithm using Loyd's algorithm approach.

The clustering is done based on colors (3 features r,g,b) so the axis now r,g,b instead of x,y.

For starters use the following ppm as input:

[peppers.ppm](https://fcps.blackboard.com/bbcswebdav/pid-44684003-dt-content-rid-49370548_2/xid-49370548_2)

For the image above we will use k =4.

For centroids you may start with 4 random values, 4 set values or 4 pixels from the image that are different.

Initially I advise all students to start with (0,0,0), (85,85,85), (170,170,170) and (255,255,255)

Here is a sample of how centroids change:

[peppersSTEPS.png](https://fcps.blackboard.com/bbcswebdav/pid-44684003-dt-content-rid-49370549_2/xid-49370549_2)

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Useful tools:

you can start from a jpg file like:  [peppers.jpg](https://fcps.blackboard.com/bbcswebdav/pid-44684003-dt-content-rid-49370550_2/xid-49370550_2)

How to convert ppm to jpg and backwards:  [Using convert utility on Linux workstations.txt](https://fcps.blackboard.com/bbcswebdav/pid-44684003-dt-content-rid-40765215_2/xid-40765215_2)

Once you have the ppm use that ppm as your input file for part2.

An example of your output file (is only a portion of the result:  [PartPeppers.jpg](https://fcps.blackboard.com/bbcswebdav/pid-44684003-dt-content-rid-49370551_2/xid-49370551_2)