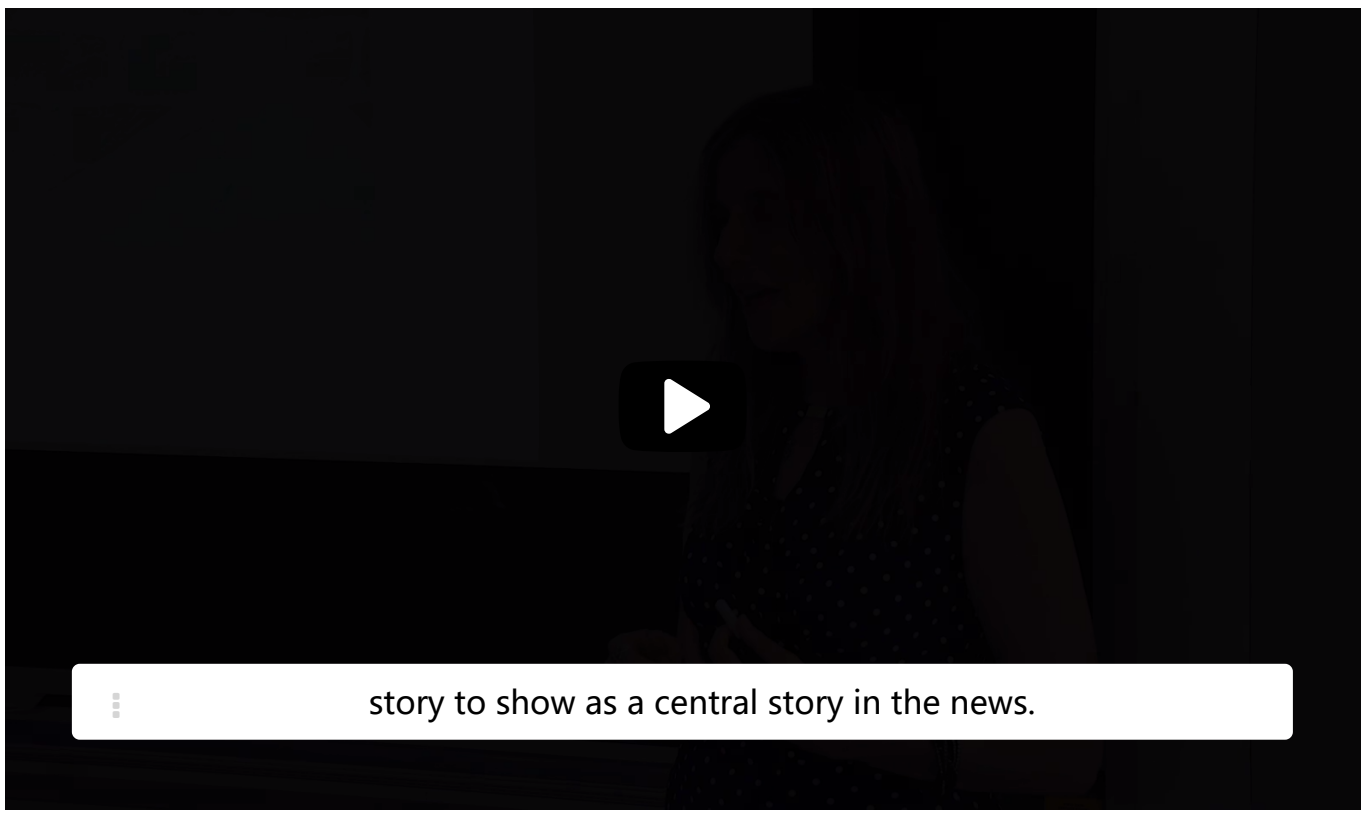
4. Another Clustering Example: Image Quantization
Another Clustering Example: Image Quantization



7:41 / 7:41 1.0x

And finally, we would use some clustering algorithm

which would tell us how to group them.

So in this case, for instance, after we finished the grouping,

we will select one representative color

for the cluster and use them in the picture.

In the case of Google News, we selected one representative

story to show as a central story in the news.

End of transcript. Skip to the start.

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Clustering in Image Quantization

1/1 point (graded)
In the video above, Professor Barzilay described how we can cluster colors into similar groups, and re-color the image with the "representative" colors of each cluster.

As shown in the lecture, the image below is the original image.

On the other hand, the image below is the compressed image after clustering into k clusters.

What is the value of k, the number of clusters?

$k =$

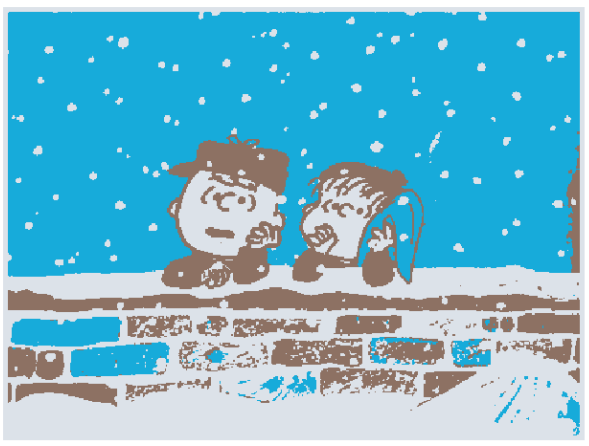
2 ✔ **Answer:** 2

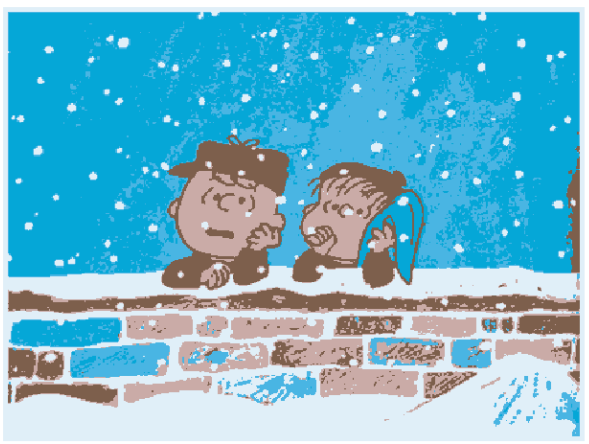
Submit You have used 1 of 2 attempts

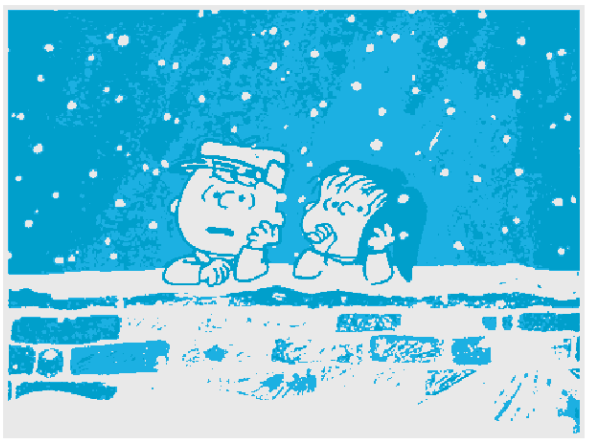
Answers are displayed within the problem

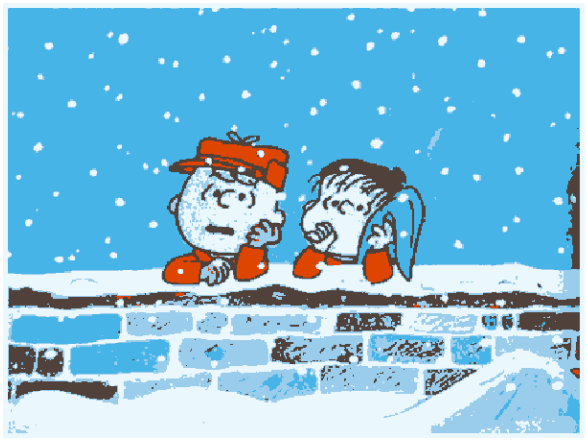
Clustering in Image Quantization

1/1 point (graded)
If we use $K = 3$, which of the following will be the compressed image?









Solution:

As $K = 3$, the resulting image should only consit of 3 colors. The 2nd and 4th choices have more than 3 colors. The 3rd choice has 3 colors, but they are random colors selected from the original image, not the representative colors, which are supposed to be the cluster means of the 3-means algorithm.

Submit You have used 2 of 2 attempts

Answers are displayed within the problem

Discussion

Show Discussion

Topic: Unit 4 Unsupervised Learning (2 weeks) :Lecture 13. Clustering 1 / 4. Another Clustering
Example: Image Quantization