



---

## PRINCIPAL COMPONENT VECTORS (1 point possible)

Principal component vectors have length

- ☐  $n$  -- the length of the dataset
- ☐  $\sqrt{n}$
- ☐  $d$  -- the number of features
- ☐  $k$  -- the number of principal components selected

?

CHECK

---

## EIGENVALUES (1 point possible)

The top  $k$  principal components correspond to the top  $k$  eigenvalues.

- ☐ True
- ☐ False

?

CHECK

---

## COMPUTATION AND STORAGE COMPLEXITY (1 point possible)

The distributed PCA algorithm we implemented in the lab used:

☐  $O(d^2)$  local storage☐  $O(d^3)$  local computation☐  $O(d)$  local storage☐  $O(d^2)$  local computation

?

Note: Make sure you select all of the correct options—there may be more than one!

---

## PLOTTING CORRELATED VARIABLES (1 point possible)

In Visualization 1, what would the data look like if covariance equaled -1.0?

☐ A vertical line☐ Similar to covariance of 0☐ Similar to covariance of .9☐ A diagonal line

?

---

## HIGH POSITIVE COVARIANCE (1 point possible)

In Visualization 1 when the covariance is .9, where are most of the points on the plot?

☐ lower-left and lower-right☐ upper-right and lower-left☐ upper-left and lower-right☐ upper-left and upper-right

?

CHECK

---

### PCA FUNCTION (1 point possible)

When running the pca function what is the largest k we should use?

☐ 1☐ n -- length of dataset☐ d -- number of features

?

CHECK

---

### TIME BASED AGGREGATION (1 point possible)

In Visualization 9, does the resulting spatial map appear symmetric or asymmetric about the midline (horizontal line across the middle of the brain)?

☐ Symmetric

---

☐ Asymmetric

?

CHECK

---

### DIRECTION BASED AGGREGATION (1 point possible)

In Visualization 10, does the resulting spatial map appear symmetric or asymmetric about the midline (horizontal line across the middle of the brain)?

☐ Symmetric

☐ Asymmetric

?

CHECK

---

### SURVEY: LAB5 COMPLETION TIME (1 point possible)

How long did Lab FIVE take you to complete (in hours - decimals are OK)?

?

---

Please click "Check" to save your answers.

[CHECK](#) Some Rights Reserved[About](#) [Blog](#) [News](#) [FAQs](#) [Contact](#) [Jobs](#) [Donate](#) [Sitemap](#)[Terms of Service & Honor Code](#) [Privacy Policy](#) [Accessibility Policy](#)

© edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open EdX logos are registered trademarks or trademarks of edX Inc.

