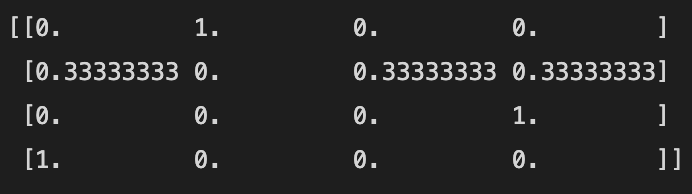
ENGN/COMP8535 Homework 2

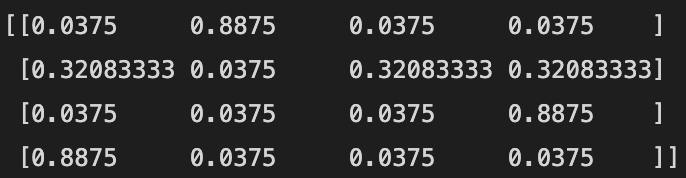
Yuyang Han u7434576

Q1

1. P is



1. G is



1. Use G and α, rank the webpages with fullrank algorithm. Using the power method to compute an approximation of with 5 iterations from gets the following rank results.

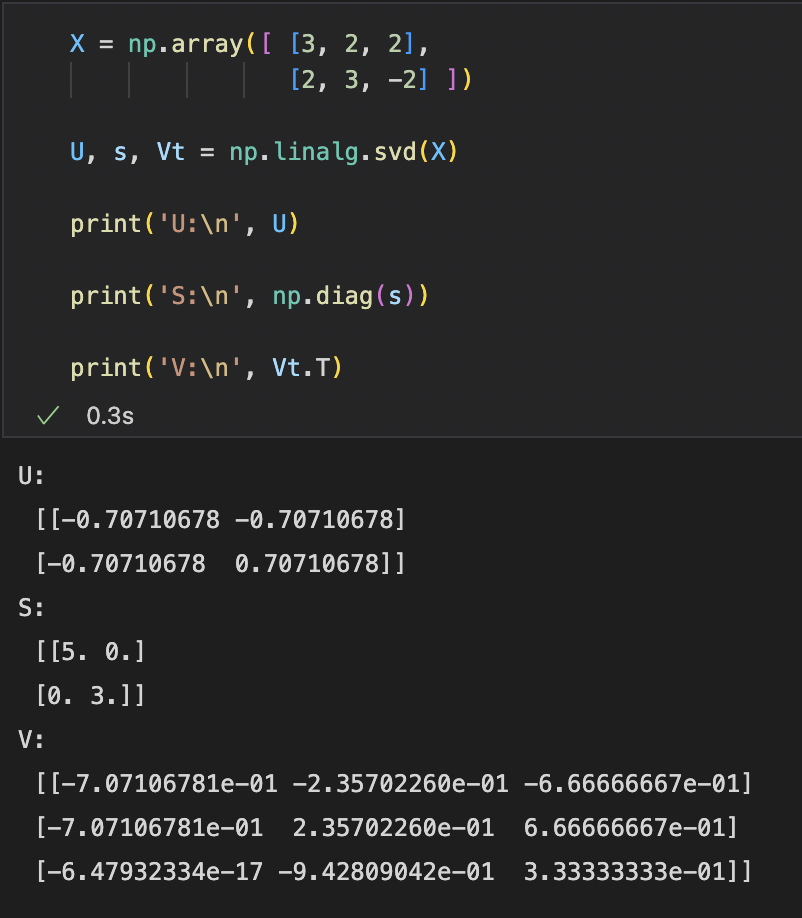
A picture containing application

Description automatically generated where the first page has the highest rank.

Q2

1. Working out the svd of X by hand

Here is the result of find the svd of X using python numpy library

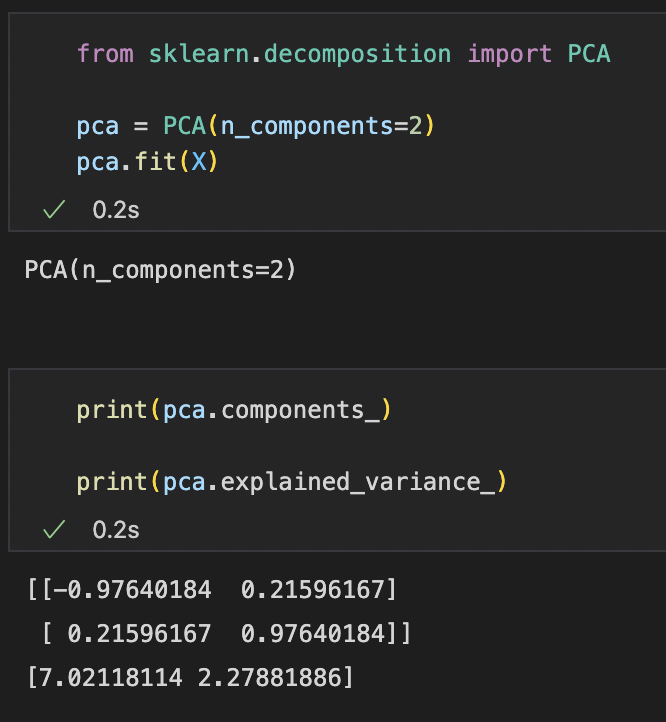


1. The best rank-one approximation to *X* is where is the first singular value, is the first left singular vector, and is the first right singular vector of *X*. Below is the reconstructed *X.*

Text

Description automatically generated

Q3



Chart

Description automatically generated

Chart, scatter chart, box and whisker chart

Description automatically generated

