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Homework 3 submission-

R Code Output:

```
> my_pca (iris_matrix)
$variables
      [,1]      [,2]      [,3]      [,4]
[1,] -0.36138659  0.65658877  0.58202985  0.3154872
[2,]  0.08452251  0.73016143 -0.59791083 -0.3197231
[3,] -0.85667061 -0.17337266 -0.07623608 -0.4798390
[4,] -0.35828920 -0.07548102 -0.54583143  0.7536574

$values
[1] 4.20005343 0.24105294 0.07768810 0.02367619

[1] "The standard deviations of the components is:"
[1] 2.0494032 0.4909714 0.2787259 0.1538707
> my_pca_inbuilt(iris1)
[1] "Comparing with the standard deviation values from inbuilt function:"
Importance of components:
              Comp.1      Comp.2      Comp.3      Comp.4
Standard deviation  2.0494032 0.49097143 0.27872586 0.153870700
Proportion of Variance 0.9246187 0.05306648 0.01710261 0.005212184
Cumulative Proportion 0.9246187 0.97768521 0.99478782 1.000000000
```

Python Code Output:

```
In [15]: runfile('H:/UCLA Fall 2015/202 - Statistics Programming/HW3/PCA.py'
Fall 2015/202 - Statistics Programming/HW3')
[ 4.196675  0.240629  0.078      0.023525]
[[ 0.36159  -0.65654   0.580997 -0.317255]
 [-0.082269 -0.729712 -0.596418  0.324094]
 [ 0.856572  0.175767 -0.072524  0.479719]
 [ 0.358844  0.074706 -0.549061 -0.751121]]
The standard deviations of the components is:
2.04857881547
0.490539105967
0.279285544512
0.153379073796
```