PROGRAM NO:2

Aim:Perform SVD(singular value decomposition) using python

PROGRAM

```
from numpy import array
from scipy.linalg import svd
B=array([[5,9,4,8,9],[2,8,9,5,3],[5,6,11,3,4],[1,2,3,4,5]])
print(B)
P,Q,R=svd(B)
print(P)
print(Q)
print(R)
```

Output

```
C:\Users\mca\PycharmProjects\pythonProject\venv\Scripts\python.exe C:/Users/mca/PycharmProjects/pythonProject/scipy1.py
[[ 5  9  4  8  9]
 [ 2  8  9  5  3]
 [ 5  6 11  3  4]
 [ 1  2  3  4  5]]
```

```
[[-0.61090026 -0.68964865  0.05881841 -0.38435141]
 [-0.51757341  0.34700091  0.71809741  0.30991007]
 [-0.53679641  0.57957436 -0.55004415 -0.27091439]
 [-0.26602303 -0.26089974 -0.42228893  0.82633839]]
[25.1656684   7.90538642  3.18881293  2.45468362]
[[-0.27973242 -0.53213425 -0.54854857 -0.40330939 -0.41835262]
 [-0.01483411 -0.06010888  0.75354093 -0.3905009  -0.52521612]
```

```
[[-0.27973242 -0.53213425 -0.54854857 -0.40330939 -0.41835262]
 [-0.01483411 -0.06010888  0.75354093 -0.3905009  -0.52521612]
 [-0.45227577  0.66774134 -0.19417952  0.22633694 -0.5105233 ]
 [-0.74558305 -0.38811182  0.30584057  0.39408314  0.21127035]
 [-0.40135056  0.3416296   0.00513729 -0.69160729  0.49382173]]

Process finished with exit code 0
```