Feature extraction and similarity Analysis:

Data :


0
200
0
200
0
200
0
200
0
200
0
200

1.0	0.676	0.555	0.559	0.574	0.537
0.676	1.0	0.686	0.582	0.577	0.55
0.555	0.686	1.0	0.663	0.654	0.69
0.559	0.582	0.663	1.0	0.703	0.652
0.574	0.577	0.654	0.703	1.0	0.663
0.537	0.55	0.69	0.652	0.663	1.0

For the Above features we have used Resnet50 for extracting feature vector of 2048 dimensions and then used the cosine distance to find the similarity of the shoes.

Analysis :

- Image 1 contains same shoes as in image 2 and both are the top views of the shoe that is why it has highest similarity with image 2 i.e **0.676**.
- Image 2 and 3 are same shoes with different orientations so they are having similarity of **0.686**.
- Image 3 and 4 are different (left and right) shoes of same pair so they are having similarity of **0.703**.
- Image 5 has max similarity with image 3 and 4 and seems to be because both are nike shoes and the sign of the company is quite visible in the image.