Product Recommendation System

import numpy as np #importing numpy

users = ["user1","user2","user3"] # users  is a list

products = ["laptop","mouse","monitor","pen drive","hard disk"] # list

uids = {} #dict

for i in range(len(users)): # start=0, stop 3 step 1  i 3 i<stop 3<3 True

  uids[users[i]]=i # uids[users[0]]=0  user1: 0 user2:1 user3:2

pids = {} # dict

for i in range(len(products)): # start =0 stop =5 step =1 i 0

  pids[products[i]]=i # pids[laoptop]=0 , mouse 1 monitor 2 pendrive 3 harddisk 4

print(uids, pids)

prd\_fq = np.zeros((len(users),len(products)) ) # 3\*5

print(prd\_fq)

def reclist(uid): # function definition

  uid = uids[uid] # Row id of User

  upids = prd\_fq[uid, :]  # column id of the products

  plist = np.argsort(upids)[::-1][:len(upids)] #frequnecy based sorting for the products

  plist = [products[p] for p in plist] # to retrive items in the sorted order based on frequency

  print(plist) #display

def viewproduct(uid, pid): # function definition

  uid = uids[uid] # row id of user

  pid = pids[pid] # column id of the product

  prd\_fq[uid, pid] = prd\_fq[uid, pid] + 1  # frequency increment

  print(prd\_fq) # display

uname = input("Enter user name:")

print(reclist(uname))

pname = input("Select one product:")

viewproduct(uname, pname)

Input: Enter the user name : user1

Enter the product : hard disk

Output: [[0. 0. 0. 0. 1.]

[0. 0. 0. 0. 0.]

[0. 0. 0. 0. 0.]]