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| import numpy as np  # Problem 2  # A = np.empty(0)  # B = np.empty(0)  A = np.array([])  B = np.array([])  # med: median, cnt: count  n1 = len(A)  n2 = len(B)  if (n1 == 0) and (n2 == 0):  print('There is no data!')  else:  if (n1 == 0) or (n2 == 0):  if n2 == 0:  # med = med(A)  m1 = n1 // 2  if n1 % 2 == 0:  med = (A[m1-1] + A[m1]) / 2  print(f'median = (A[' + str(m1-1) + ']+A['+str(m1)+'])/2 = ', med)  else:  med = A[m1]  print(f'median = A['+str(m1)+'] = ', med)  else:  # med = med(B)  m2 = n2 // 2  if n2 % 2 == 0:  med = (B[m2-1] + B[m2]) / 2  print(f'median = (B['+str(m2-1)+']+B['+str(m2)+'])/2 = ', med)  else:  med = B[m2]  print(f'median = B['+str(m2)+'] = ', med)  else:  n = n1 + n2  cnt = 0  cnt1 = 0  cnt2 = 0  med = A[0]  if n % 2 == 1: # n is odd  m = n // 2  while cnt <= m:  # print(f'count1=', cnt1, 'count2=', cnt2, 'count=', cnt, 'median=', med)  if (cnt1 <= n1-1) and (cnt2 <= n2-1):  if A[cnt1] <= B[cnt2]:  if cnt == m:  med = A[cnt1]  print(f'median = A['+str(cnt1)+'] = ', med)  cnt1 += 1  else:  if cnt == m:  med = B[cnt2]  print(f'median = B['+str(cnt2)+'] = ', med)  cnt2 += 1  cnt = cnt + 1  else:  if cnt2 > n2-1:  cnt = m+1  med = A[m+1-cnt1-cnt2]  print(f'median = A['+str(m+1-cnt1-cnt2)+'] = '+str(med))  else:  cnt = m+1  med = B[m+1-cnt1-cnt2]  print(f'median = B['+str(m+1-cnt1-cnt2)+'] = '+str(med))  # print(f'count1=', cnt1, 'count2=', cnt2, 'count=', cnt, 'median=', med)  else: # n is even  m = n // 2  med1 = A[0]  med2 = B[0]  while cnt <= m:  # print(f'count1=', cnt1, 'count2=', cnt2, 'count=', cnt, 'median=', med)  if (cnt1 <= n1-1) and (cnt2 <= n2-1):  if A[cnt1] <= B[cnt2]:  if cnt == m-1:  med1 = A[cnt1]  print(f'median = (A[' + str(cnt1) + '] + ', end='')  if cnt == m:  med2 = A[cnt1]  print(f'A[' + str(cnt1) + '])/2 = '+str((med1+med2)/2))  cnt1 += 1  else:  if cnt == m-1:  med1 = B[cnt2]  print(f'median = (B[' + str(cnt2) + ']+ ', end='')  if cnt == m:  med2 = B[cnt2]  print(f'B[' + str(cnt2) + '])/2 = '+str((med1+med2)/2))  cnt2 += 1  cnt = cnt + 1  else:  if cnt2 > n2-1:  cnt = m+1  if cnt != m-1:  med1 = A[m-cnt1-cnt2]  print(f'median = (A[' + str(m-cnt1-cnt2) + '] + ', end='')  med2 = A[m+1-cnt1-cnt2]  print(f'A[' + str(m+1-cnt1-cnt2) + '])/2 = '+str((med1+med2)/2))  else:  cnt = m+1  if cnt != m-1:  med1 = B[m-cnt1-cnt2]  print(f'median = (B[' + str(m-cnt1-cnt2) + '] + ', end='')  med2 = B[m+1-cnt1-cnt2]  print(f'B[' + str(m+1-cnt1-cnt2) + '])/2 = '+str((med1+med2)/2))  # print(f'count1=', cnt1, 'count2=', cnt2, 'count=', cnt, 'median=', med)  med = (med1+med2)/2  if (n1 != 0) or (n2 != 0):  print(f'The median is: ' + str(med)) |