

Лабораторная работа №4

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Вариант 9,

Задание 1: Функция сортировки чисел в списке по убыванию произведения цифр чисел . Применить к 10 спискам, где случайным образом генерируются трехзначные цифры. Вывести в виде : исходный список, отсортированный

Листинг кода:

```
from random import randint
```

```
print("### задание 1 ###")
```

```
def genSeq(a, b, x):
```

```
    seq = []
```

```
    seq.append(a)
```

```
    seq.append(b)
```

```
    i = 2
```

```
    while i < x:
```

```
        seq.append(seq[i-2]*seq[i-1])
```

```
        i += 1
```

```
    return seq
```

```
x = int(input("Введите x: "))
```

```
a = int(input("Введите A: "))
```

```
b = int(input("Введите B: "))
```

```
seq = genSeq(a, b, x)
```

```
print(seq)
```

```
print("")
```

```
print("### задание 2 ###")
```

```
def multiply(array):
```

```
    array = str(array)
```

```
    result = 1;
```

```
    for i in array:
```

```
        result *= int(i)
```

```
    return result
```

```
def sort(lists):
```

```
    for list in lists:
```

```
        list.sort(key = lambda x: multiply(x) , reverse = True)
```

```
    return lists
```

```
size = int(input("Введите размер списка: "))
```

```
lists = [[randint(100, 999) for i in range(size)] for j in range(10)]
```

```
print("Списки:")
```

```
for list in lists:
```

```
    print(list)
```

```
sortedLists = sort(lists)
```

```
print("Отсортированные списки:")
```

```
for sortedList in sortedLists:
```

```
    print(sortedList)
```

Результат кода :

```
### задание 1 ###
Введите x: 1
Введите A: 1
Введите B: 1
[2, 3]

### задание 2 ###
Введите размер списка: 100
Списки:
[444, 544, 223, 760, 246, 121, 210, 923, 889, 464, 775, 757, 887, 649, 320, 512, 147, 702, 148, 837, 703, 641, 470, 589, 635, 690, 362, 303, 993, 779, 200, 711, 950, 586, 413, 20
[985, 354, 323, 601, 844, 230, 196, 853, 739, 598, 937, 912, 498, 883, 300, 243, 407, 279, 266, 245, 117, 810, 491, 699, 648, 310, 243, 520, 787, 855, 580, 812, 301, 332, 867, 27
[729, 840, 863, 125, 365, 897, 456, 570, 602, 807, 168, 750, 753, 473, 874, 207, 553, 600, 884, 836, 260, 485, 749, 178, 695, 111, 516, 146, 788, 300, 878, 831, 537, 415, 194, 70
[998, 182, 746, 353, 985, 716, 875, 475, 217, 398, 479, 952, 565, 114, 481, 828, 339, 734, 427, 872, 741, 384, 364, 264, 979, 282, 918, 928, 504, 582, 610, 647, 819, 139, 424, 71
[113, 167, 193, 373, 642, 651, 150, 820, 387, 354, 226, 149, 387, 239, 992, 846, 216, 273, 273, 530, 934, 170, 242, 480, 273, 989, 686, 636, 275, 704, 155, 271, 593, 164, 404, 45
[932, 438, 528, 597, 517, 888, 954, 734, 650, 645, 538, 366, 711, 323, 906, 419, 645, 849, 807, 683, 163, 828, 588, 617, 695, 564, 469, 600, 124, 321, 980, 364, 767, 887, 651, 59
[930, 206, 346, 488, 861, 886, 227, 885, 953, 269, 633, 412, 913, 657, 167, 780, 432, 173, 557, 710, 449, 539, 512, 121, 914, 605, 288, 267, 517, 408, 617, 490, 125, 410, 797, 61
[286, 822, 607, 825, 663, 735, 839, 378, 357, 449, 697, 657, 480, 164, 527, 451, 469, 430, 277, 644, 974, 358, 576, 146, 137, 689, 408, 825, 178, 679, 104, 211, 488, 621, 426, 55
[260, 193, 233, 829, 823, 316, 245, 288, 912, 134, 490, 716, 940, 279, 456, 564, 490, 202, 819, 120, 517, 134, 363, 412, 607, 627, 867, 286, 443, 407, 780, 539, 526, 834, 823, 23
[525, 785, 953, 358, 530, 560, 933, 463, 755, 509, 233, 930, 804, 987, 110, 948, 495, 306, 937, 785, 924, 924, 518, 158, 919, 282, 602, 978, 290, 898, 183, 668, 794, 422, 377, 55
Отсортированные списки:
[889, 997, 979, 887, 779, 797, 689, 679, 589, 777, 867, 849, 775, 757, 993, 586, 649, 469, 576, 486, 739, 566, 459, 837, 746, 396, 449, 953, 828, 927, 736, 554, 464, 644, 384, 63
[889, 699, 878, 797, 787, 868, 985, 598, 985, 867, 949, 499, 498, 984, 785, 855, 883, 648, 883, 739, 937, 937, 397, 566, 936, 299, 845, 928, 982, 844, 279, 853, 546, 278, 728, 54
[897, 788, 878, 779, 599, 787, 868, 886, 985, 777, 489, 984, 849, 695, 884, 749, 794, 874, 983, 469, 585, 883, 937, 549, 549, 873, 746, 485, 845, 773, 863, 836, 593, 448, 729, 72
[998, 889, 979, 968, 985, 687, 867, 498, 984, 686, 875, 695, 848, 479, 658, 398, 838, 883, 746, 647, 467, 565, 655, 928, 494, 475, 953, 828, 844, 376, 555, 872, 474, 287, 629, 38
[989, 979, 978, 987, 869, 696, 686, 498, 875, 695, 956, 974, 794, 974, 666, 469, 389, 747, 846, 838, 937, 973, 387, 387, 992, 963, 565, 547, 593, 972, 673, 555, 744, 827, 934, 63
[888, 888, 897, 879, 887, 887, 787, 796, 588, 597, 767, 849, 695, 749, 775, 469, 567, 468, 379, 739, 954, 594, 755, 369, 992, 458, 584, 683, 928, 466, 395, 828, 367, 645, 538, 64
[699, 797, 886, 885, 858, 596, 965, 488, 993, 946, 657, 585, 648, 864, 557, 575, 387, 854, 854, 655, 449, 829, 754, 953, 539, 593, 359, 288, 376, 269, 636, 349, 366, 554, 644, 36
[979, 789, 699, 797, 689, 697, 679, 786, 975, 849, 488, 488, 974, 757, 856, 478, 839, 469, 657, 576, 585, 477, 883, 793, 945, 557, 378, 936, 963, 299, 449, 892, 574, 637, 792, 35
[878, 778, 859, 867, 866, 758, 676, 748, 748, 938, 829, 539, 288, 279, 367, 736, 456, 564, 853, 538, 772, 286, 834, 834, 286, 635, 563, 627, 734, 627, 819, 918, 662, 891, 188, 73
```