In [7]:
```
#print multiples of 3 upto 200 using a list
l=[]
l=[x for x in range(0,200) if(x%3==0)]
print(l)
```

```
[0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 6
0, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102, 105, 108, 111, 11
4, 117, 120, 123, 126, 129, 132, 135, 138, 141, 144, 147, 150, 153, 156, 159,
162, 165, 168, 171, 174, 177, 180, 183, 186, 189, 192, 195, 198]
```

In [8]:
```
#print the nos only divisable by 5 and 7 between 1000 and 2000 using a list( bo
l=[]
l=[i for i in range(1000,2000) if i%5==0 and i%7==0 ]
print(l)
```

```
[1015, 1050, 1085, 1120, 1155, 1190, 1225, 1260, 1295, 1330, 1365, 1400, 1435,
1470, 1505, 1540, 1575, 1610, 1645, 1680, 1715, 1750, 1785, 1820, 1855, 1890,
1925, 1960, 1995]
```

In [18]:
```
#Add the n number of names in a list and print them alphabetically and reverse
n=int(input("enter n value"))
a=[]
for i in range(n):
    names=str(input())
    a.append(names)
b=sorted(a)
print(sorted(a))
print(b[::-1])
```

```
enter n value5
sathvik
madan
rohan
dhruvil
harsh
['dhruvil', 'harsh', 'madan', 'rohan', 'sathvik']
['sathvik', 'rohan', 'madan', 'harsh', 'dhruvil']
```

In [28]:
```
#Print perfect squares and divisible by 5 between 500 and 1000 (both inclusive)
import math
l=[]
a=[ x for x in range(500,1001) if x%5==0 and (math.sqrt(x)-math.floor(math.sqrt
print(a)
```

```
[625, 900]
```

In [35]:
```
#Calculate the Average of the numbers in a List by getting the elements of list
l=[]
n=int(input("enter n value"))
for i in range(n):
    no=int(input())
    l.append(no)
print("average",sum(l)/n)
```

```
enter n value5
3
2
5
4
1
average 3.0
```

In [41]:
```
#Print lists of odd,even and multiples of 5 numbers from 1 to 1000 using list
o=[]
e=[]
```

```
m=[]
for i in range(1000):
    if(i%2==0):
        e.append(i)
    else:
        o.append(i)
    if (i%5==0):
         m.append(i)
print("even",e)
print("odd",o)
print("multiple of 5",m)
```

```
even [0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 3
8, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76,
78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112,
114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 14
4, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174,
176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 20
6, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236,
238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 26
8, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298,
300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 33
0, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360,
362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 39
2, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422,
424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 45
4, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484,
486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 51
6, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546,
548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 57
8, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608,
610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 64
0, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670,
672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 70
2, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732,
734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 76
4, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794,
796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 82
6, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856,
858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 88
8, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918,
920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 95
0, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980,
982, 984, 986, 988, 990, 992, 994, 996, 998]
odd [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 3
9, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77,
79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113,
115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 14
5, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175,
177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 20
7, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237,
239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 26
9, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299,
301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 33
1, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361,
363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 39
3, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423,
425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 45
5, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485,
487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 51
7, 519, 521, 523, 525, 527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547,
549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 57
9, 581, 583, 585, 587, 589, 591, 593, 595, 597, 599, 601, 603, 605, 607, 609,
611, 613, 615, 617, 619, 621, 623, 625, 627, 629, 631, 633, 635, 637, 639, 64
1, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671,
673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 70
3, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733,
735, 737, 739, 741, 743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 76
5, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795,
```

```
797, 799, 801, 803, 805, 807, 809, 811, 813, 815, 817, 819, 821, 823, 825, 82
7, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857,
859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 88
9, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919,
921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 95
1, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981,
983, 985, 987, 989, 991, 993, 995, 997, 999]
multiple of 5 [0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 8
0, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 16
0, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235,
240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 31
5, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390,
395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 47
0, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545,
550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 62
5, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700,
705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 78
0, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855,
860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 93
5, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995]
```

In [43]:
```
#Python Program to Create a List of Tuples with the First Element as the Number
n=int(input("enter the number"))
a=[(x,x**2) for x in range(n)]
print(a)
```

```
enter the number10
[(0, 0), (1, 1), (2, 4), (3, 9), (4, 16), (5, 25), (6, 36), (7, 49), (8, 64),
(9, 81)]
```

In [48]:
```
#Write python program to have a list of words to sort them from shortest to lon
words = ["sathvik","dhruvil","jay","madan","rohan"]
t = list()
for word in words:
 t.append((len(word), word))
t.sort(reverse=False)
res = list()
for length, word in t:
 res.append(word)
print(res)
```

```
['jay', 'madan', 'rohan', 'dhruvil', 'sathvik']
```

In [59]:
```
#Write python program to get a list of tuples of Rollno,Name for 5 students thr
t=list()
for i in range(5):
    t.append((input("enter rollno"),input("enter the name")))
t.sort()
print(t)
```

```
enter rollno45
enter the namesathvik
enter rollno65
enter the namemadan
enter rollno78
enter the nameharsh
enter rollno90
enter the namefarhan
enter rollno98
enter the nameraj
[('45', 'sathvik'), ('65', 'madan'), ('78', 'harsh'), ('90', 'farhan'), ('98',
'raj')]
```

In [60]:
```
#Write python program to get a list of tuples of Rollno,Name for 5 students thr
t=list()
```

```
for i in range(5):
    t.append((input("enter rollno"),input("enter the name")))
t.sort(reverse=True)
print(t)
```

```
enter rollno45
enter the namesathvik
enter rollno67
enter the namemadan'
enter rollno89
enter the nameraj
enter rollno34
enter the namejay
enter rollno08
enter the namedhruvil
[('89', 'raj'), ('67', "madan'"), ('45', 'sathvik'), ('34', 'jay'), ('08', 'dh
ruvil')]
```

In [61]:
```
#Write python program to get a list of tuples of Rollno,Name for 5 students thr
t=list()
for i in range(5):
    t.append((input("enter name"),input("enter the rollno")))
t.sort()
print(t)
```

```
enter namesathvik
enter the rollno34
enter namedhruvil
enter the rollno12
enter namejay
enter the rollno76
enter namekamlesh
enter the rollno978
enter namefarhan
enter the rollno88
[('dhruvil', '12'), ('farhan', '88'), ('jay', '76'), ('kamlesh', '978'), ('sat
hvik', '34')]
```

In [62]:
```
#Write python program to get a list of tuples of Rollno,Name for 5 students thr
t=list()
for i in range(5):
    t.append((input("enter name"),input("enter the rollno")))
t.sort(reverse=True)
print(t)
```

```
enter namedhruvil
enter the rollno54
enter namesathvik'
enter the rollno64
enter nameraj
enter the rollno77
enter namekamlesh
enter the rollno33
enter namerohan
enter the rollno64
[("sathvik'", '64'), ('rohan', '64'), ('raj', '77'), ('kamlesh', '33'), ('dhru
vil', '54')]
```