from math import log10

from random import randint

import random

import time #se importan las librerias necesarias para la correcta ejecucion del programa

import sys

import timeit

global find

global mushu

global alist

def listaAleatorios(n): #se crea el metodo del cual se obtendra un arreglo de elementos completamente aleatorios

global alist #se crea la variable global alist

alist = [0] \* n #se multiplica un arreglo con un elemento 0 por el numero de datos solicitados

for i in range(n): #se crea un for donde

alist[i] = random.randint(0, 1000) #se creara un arreglo completamente aleatorio entre los numeros escogidos

return alist #se devuelve el arreglo

def mergeSort(alist): #metodo merge, recibe como parametro lel arreglo para acomodarlo posteriormente

if len(alist)>1:

mid = len(alist)//2 #se divide a la mitad el arreglo

lefthalf = alist[:mid] #se asignan los dos arreglos a las variables lefthalf y righthalf

righthalf = alist[mid:]

mergeSort(lefthalf)

mergeSort(righthalf)

i=0

j=0

k=0

while i < len(lefthalf) and j < len(righthalf): #mientras i sea menor que la longitud de el arreglo ixquierdo y j es menor que la longitud del arreglo derecho entonces

if lefthalf[i] < righthalf[j]: #si el arreglo izquierdo es menor que el derecho

alist[k]=lefthalf[i] #se guarda el valor de i del arreglo izquierdo en la lista con la variable k

i=i+1 #i se iguala a i+1 para aumentar el contador

else:

alist[k]=righthalf[j] #se guarda el valor de j del arreglo izquierdo en la lista con la variable k

j=j+1 #j se iguala a j+1 para aumentar el contador

k=k+1

while i < len(lefthalf): #mientras i sea menor que la longitud del arreglo izquierdo

alist[k]=lefthalf[i] #se guarda el valor de i del arreglo dereho en la lista con la variable k

i=i+1

k=k+1

while j < len(righthalf): # mientras j sea menor que la longitud del arreglo derecho

alist[k]=righthalf[j] #se guarda el valor de j del arreglo dereho en la lista con la variable k

j=j+1

k=k+1

def shellSort(alist): #metodo shellsort, recibe como parametro lel arreglo para acomodarlo posteriormente

gap=len(alist)//2 #se divide el arreglo entre 2

while gap>0: #mientras la variable gap sea mayor que 0 entonces

for i in range(gap,len(alist)): #se crea un for desde el valor de gap hasta el largo del arreglo

val=alist[i] #se guarda el valor de i de =l arreglo en la varaible val

j=i #se iguala i a j

while j >= gap and alist[j-gap]>val: #mientras j sea mayor o igual a gap y el valor del arreglo menos gap sea mayor al valor entonces

alist[j]=alist[j-gap] #se guarda el valor de la j menos el valor de gap en el arreglo en j

j-=gap #se va disminuyendo el valor de gap

alist[j]=val #se guarda el valor de val e el arreglo en j

gap//=2

def quickSort(alist): #metodo quicksort, recibe como parametro el arreglo para acomodarlo posteriormente

quickSortHelper(alist,0,len(alist)-1) #se manda a llamar al metodo helper con los parametros del arreglo, el 0 que sera el primer valor y el largo del arreglo que sera el ultimo

def quickSortHelper(alist,first,last): #metodo helper

if first<last: #si el primer valor es menor que el ultimo entonces

splitpoint = partition(alist,first,last) #se crea la variable splitpoint en la que se guarda lo que devuelve el metodo partition

quickSortHelper(alist,first,splitpoint-1) #se llama el metodo con los parametros del arreglo, el primer valor y el anterior al splitpoint

quickSortHelper(alist,splitpoint+1,last) #se llama el metodo con los parametros del arreglo, el siguiente al splitpoint y el ultimo valor

def partition(alist,first,last): #metodo partition con los parametros del arreglo, el primer y ultimo valor.

pivotvalue = alist[first] #se crea un pivote y se le asigna el primer valor del arreglo

leftmark = first+1 # se crea un puntero izquierdo y toma el segundo valor del arreglo

rightmark = last #se crea un puntero derecho y toma el ultimo valor del arreglo

done = False #se le da valor False a la variable done

while not done: #mientras que done no sea False

while leftmark <= rightmark and alist[leftmark] <= pivotvalue: #mientras que el puntero izq sea menor o igual al derecho y el valor del puntero

leftmark = leftmark + 1 #izq en el arreglo sea menor o igual al pivote entonces el puntero izq toma el

#siguiente valor

while alist[rightmark] >= pivotvalue and rightmark >= leftmark: #mientras el valor del puntero derecho en el arreglo sea mayor o igual al pivote y

rightmark = rightmark -1 # el puntero derecho sea menor o igual al puntero derecho entonces el puntero derecho toma el

#valor anterior a este

if rightmark < leftmark: #si el puntero derecho es menor que el izquierdo done devuelve valor True

done = True

else: #en caso contrario, se crea una variable temp, y se le asigna el valor del puntero izquierdo en el arreglo

temp = alist[leftmark]

alist[leftmark] = alist[rightmark] #se guarda el valor del puntero derecho en el arreglo en el puntero izquierdo

alist[rightmark] = temp #y se guarda el valor de temp en el puntero derecho del arreglo

temp = alist[first] #se guarda el primer vaor del arreglo en la variable temp

alist[first] = alist[rightmark] #se guarda el valor del puntero derecho en el arreglo en el primer valor del arreglo

alist[rightmark] = temp #se guarda el valor de temp en el punteroderecho del arreglo

return rightmark #devuelve el valor del puntero derecho

def Bubbles(lista): #metodo burbuja, recibe como parametro el arreglo para acomodarlo posteriormente

bubble=0

for i in range (0,len(lista)): #se meten en un for el arreglo que va desde 0 hasta el largo del arreglo

for j in range (0,len(lista)-1): #se crea un for desde 0 asta el penultimo valor del largo del arreglo

if lista[j]>lista[j+1]: #si la lista en j es mayor qe el siguiente valor en la lista entonces

bubble=lista[j+1] #se iguala la bariable bubble el valor siguiente de j

lista[j+1]=lista[j] #se guarda en dato de j en el dato siguiente de j

lista[j]=bubble #se guarda el dato de bubble en j

def pruebas(): #metodo pruebas, aqui se realizaran las pruebas de cada metodo, utilizando el mismo arreglo con cada metodo, pero diferetne arreglo cada prueba.

global alist

for j in range(1,31): #se crea un for donde se realizara cada metodo hasta completar las 30 puebas

alist=500

aleatorios=listaAleatorios(alist)

print(aleatorios) #se manda a llamar el metodo aleatorios, que es donde se creara el arreglo con una cantidad de 500 elementos aleatorios

print("\nPrueba ",j,".\n")

starting\_point=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion antes de llamar el metodo

Bubbles(alist) #se manda a llamar al metodo

print(alist) #se imprime el arreglo ya ordenado

last=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion despues de llamar al metodo

elapsed\_time=(last-starting\_point)\*1000 #se restan y se multiplican por 1000 para mostrar el resultado en milisegundos

print("\nTiempo transcurrido BubbleSort: %.5f milisegundos." % elapsed\_time) #se imprime el tiempo de ejecucion en milisegundos

starting\_point=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion antes de llamar el metodo

quickSort(alist) #se manda a llamar al metodo

print(alist) #se imprime el arreglo ya ordenado

last=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion despues de llamar al metodo

elapsed\_time=(last-starting\_point)\*1000 #se restan y se multiplican por 1000 para mostrar el resultado en milisegundos

print("\nTiempo transcurrido QuickSort: %.5f milisegundos." % elapsed\_time)#se imprime el tiempo de ejecucion en milisegundos

starting\_point=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion antes de llamar el metodo

shellSort(alist) #se manda a llamar al metodo

print(alist) #se imprime el arreglo ya ordenado

last=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion despues de llamar al metodo

elapsed\_time=(last-starting\_point)\*1000 #se restan y se multiplican por 1000 para mostrar el resultado en milisegundos

print("\nTiempo transcurrido ShellSort: %.5f milisegundos." % elapsed\_time)#se imprime el tiempo de ejecucion en milisegundos

starting\_point=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion antes de llamar el metodo

mergeSort(alist) #se manda a llamar al metodo

print(alist) #se imprime el arreglo ya ordenado

last=time.perf\_counter() #se crea la variable para guardar el tiempo de ejecucion despues de llamar al metodo

elapsed\_time=(last-starting\_point)\*1000#se restan y se multiplican por 1000 para mostrar el resultado en milisegundos

print("\nTiempo transcurrido ShellSort: %.5f milisegundos." % elapsed\_time)#se imprime el tiempo de ejecucion en milisegundos

pruebas()

Prueba 1.

[820, 635, 184, 688, 775, 483, 52, 996, 366, 278, 761, 715, 159, 104, 57, 310, 63, 197, 13, 695, 193, 293, 261, 833, 482, 653, 544, 389, 164, 40, 331, 81, 890, 530, 512, 515, 801, 818, 37, 845, 998, 596, 309, 742, 300, 278, 203, 561, 62, 798, 161, 417, 966, 391, 253, 10, 903, 477, 48, 946, 831, 325, 296, 893, 715, 924, 376, 949, 124, 184, 130, 884, 942, 17, 118, 877, 804, 41, 751, 710, 837, 451, 90, 185, 461, 298, 131, 284, 350, 670, 877, 259, 396, 88, 397, 913, 346, 38, 1, 389, 425, 541, 413, 25, 696, 191, 679, 759, 229, 766, 591, 922, 310, 855, 235, 146, 180, 983, 484, 607, 277, 491, 397, 43, 921, 426, 631, 798, 63, 324, 260, 896, 394, 141, 951, 766, 726, 706, 794, 962, 759, 29, 670, 698, 252, 161, 67, 869, 463, 734, 545, 603, 752, 411, 455, 64, 642, 543, 164, 818, 701, 896, 310, 707, 587, 674, 583, 3, 946, 192, 374, 160, 119, 676, 347, 676, 101, 881, 443, 859, 300, 458, 816, 962, 872, 496, 605, 147, 407, 739, 351, 576, 46, 829, 384, 583, 16, 8, 535, 876, 425, 672, 860, 693, 562, 509, 333, 607, 602, 255, 463, 379, 37, 645, 572, 644, 949, 923, 226, 282, 857, 86, 242, 62, 596, 430, 44, 298, 279, 799, 682, 51, 539, 568, 798, 644, 568, 932, 860, 292, 800, 947, 991, 945, 635, 337, 718, 857, 542, 27, 287, 838, 202, 248, 948, 304, 1, 804, 263, 784, 658, 318, 306, 848, 373, 108, 625, 474, 538, 430, 527, 494, 49, 421, 677, 775, 195, 268, 605, 923, 213, 208, 72, 670, 995, 616, 41, 691, 470, 551, 861, 53, 319, 753, 268, 687, 680, 468, 948, 448, 598, 645, 656, 509, 990, 309, 497, 157, 315, 309, 813, 371, 554, 464, 698, 11, 411, 139, 334, 927, 145, 102, 388, 46, 421, 353, 271, 134, 164, 979, 698, 967, 73, 253, 535, 954, 725, 201, 539, 832, 892, 577, 278, 407, 694, 787, 410, 477, 388, 975, 739, 922, 6, 134, 196, 328, 101, 158, 5, 798, 517, 627, 107, 894, 500, 534, 330, 134, 998, 417, 694, 797, 768, 787, 101, 979, 365, 795, 200, 527, 406, 542, 454, 980, 861, 711, 714, 712, 201, 393, 758, 25, 188, 532, 603, 425, 228, 510, 594, 70, 829, 368, 453, 546, 903, 804, 678, 749, 666, 212, 847, 521, 903, 256, 949, 758, 469, 972, 949, 31, 519, 749, 51, 958, 701, 253, 962, 674, 759, 234, 912, 660, 305, 483, 89, 870, 823, 774, 445, 20, 794, 951, 27, 440, 462, 443, 755, 48, 907, 816, 760, 182, 605, 211, 225, 450, 414, 790, 991, 868, 205, 943, 794, 514, 515, 718, 335, 523, 625, 457, 676, 293, 91, 415, 267, 473, 374, 213, 951, 20, 101, 541, 972, 272, 505, 453, 519, 962, 966, 780, 818, 39, 676, 445, 345, 731, 520, 316, 203, 215]

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| Método | Tiempo |
| Burbuja | 85.71745 milisegundos. |
| QuickSort | 55.19331 milisegundos. |
| ShellSort | 40.45938 milisegundos. |
| Merge | 56.46718 milisegundos. |

Prueba 2.

[444, 484, 805, 988, 997, 905, 915, 288, 873, 169, 296, 829, 829, 320, 181, 793, 18, 923, 835, 919, 66, 558, 69, 284, 45, 231, 329, 861, 595, 746, 585, 175, 833, 77, 941, 336, 307, 470, 833, 980, 974, 559, 732, 421, 907, 831, 770, 544, 427, 191, 466, 231, 600, 51, 844, 973, 723, 180, 806, 362, 559, 596, 140, 278, 351, 413, 935, 33, 165, 302, 449, 904, 542, 198, 199, 209, 788, 604, 478, 665, 753, 991, 525, 99, 681, 931, 309, 321, 352, 367, 273, 530, 441, 369, 271, 598, 898, 277, 172, 372, 934, 804, 671, 296, 994, 301, 333, 650, 658, 145, 547, 513, 455, 41, 207, 358, 615, 138, 0, 228, 570, 12, 805, 585, 664, 866, 639, 910, 55, 698, 46, 1, 848, 113, 797, 274, 378, 549, 837, 761, 57, 22, 103, 298, 402, 617, 787, 672, 518, 973, 399, 419, 488, 313, 432, 854, 620, 135, 183, 862, 174, 447, 69, 732, 801, 465, 742, 114, 498, 372, 581, 185, 542, 525, 441, 162, 39, 3, 373, 812, 25, 818, 174, 100, 76, 611, 521, 765, 5, 396, 414, 381, 210, 20, 499, 901, 728, 156, 335, 45, 786, 501, 157, 631, 230, 224, 244, 871, 358, 113, 617, 628, 159, 302, 291, 757, 731, 860, 718, 153, 923, 852, 213, 79, 648, 845, 684, 994, 345, 741, 654, 813, 993, 38, 955, 63, 148, 739, 576, 577, 75, 714, 921, 729, 364, 27, 811, 152, 264, 252, 75, 377, 319, 812, 799, 646, 736, 789, 347, 237, 413, 29, 699, 54, 86, 956, 923, 711, 235, 145, 364, 803, 68, 367, 382, 373, 80, 560, 929, 352, 411, 456, 477, 697, 590, 301, 710, 613, 891, 248, 148, 771, 487, 673, 660, 363, 286, 271, 414, 833, 917, 51, 989, 562, 959, 840, 111, 127, 520, 20, 578, 715, 668, 88, 221, 306, 301, 451, 298, 322, 142, 611, 66, 199, 412, 571, 224, 557, 929, 294, 792, 495, 627, 612, 569, 48, 817, 900, 224, 509, 760, 162, 209, 296, 98, 462, 156, 589, 711, 22, 565, 345, 941, 318, 807, 460, 940, 664, 377, 632, 278, 500, 654, 310, 479, 863, 150, 383, 953, 148, 393, 773, 998, 444, 12, 781, 608, 894, 506, 940, 193, 512, 270, 754, 562, 40, 702, 628, 240, 51, 162, 27, 80, 341, 924, 491, 940, 894, 113, 683, 668, 465, 286, 785, 223, 426, 205, 567, 735, 510, 414, 366, 765, 599, 774, 692, 289, 638, 343, 934, 562, 198, 160, 156, 749, 993, 566, 59, 868, 66, 797, 188, 595, 2, 243, 414, 9, 907, 715, 188, 867, 483, 1000, 587, 541, 505, 901, 252, 995, 427, 154, 221, 229, 246, 906, 916, 361, 521, 125, 500, 996, 497, 23, 840, 992, 359, 860, 460, 168, 709, 860, 282, 53, 297, 168, 101, 559, 517, 877, 126, 578, 98, 454, 956, 491, 577, 127, 749, 524, 170, 493, 189, 137, 470, 720, 651, 549, 154, 142, 903]

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| Método | Tiempo |
| Burbuja | 87.46754 milisegundos. |
| QuickSort | 54.79017 milisegundos. |
| ShellSort | 41.14374 milisegundos. |
| Merge | 43.12701 milisegundos. |

Prueba 3.

[483, 366, 292, 182, 364, 838, 241, 797, 316, 83, 142, 297, 342, 511, 638, 641, 916, 69, 572, 623, 56, 48, 691, 867, 564, 952, 283, 710, 531, 289, 661, 816, 737, 797, 417, 938, 885, 570, 742, 681, 87, 256, 721, 991, 26, 659, 945, 961, 368, 257, 733, 152, 221, 674, 11, 824, 907, 287, 5, 95, 349, 888, 637, 88, 500, 2, 734, 54, 438, 601, 230, 183, 772, 49, 349, 46, 676, 288, 862, 93, 212, 24, 104, 115, 509, 89, 976, 223, 21, 496, 220, 276, 303, 928, 340, 693, 103, 827, 174, 652, 794, 871, 525, 163, 922, 478, 457, 138, 299, 63, 161, 742, 992, 592, 729, 993, 372, 647, 172, 155, 205, 871, 583, 564, 982, 135, 584, 228, 328, 819, 498, 286, 516, 624, 66, 378, 502, 559, 476, 710, 267, 603, 972, 838, 462, 4, 3, 425, 195, 415, 649, 919, 942, 805, 694, 80, 546, 913, 466, 852, 343, 971, 708, 258, 213, 856, 532, 333, 167, 517, 813, 616, 44, 730, 719, 166, 747, 435, 368, 942, 558, 1, 873, 500, 43, 804, 82, 431, 558, 472, 353, 81, 154, 426, 671, 866, 730, 430, 888, 123, 95, 287, 383, 741, 418, 956, 64, 405, 552, 63, 633, 992, 592, 597, 563, 316, 981, 241, 780, 484, 283, 115, 134, 539, 0, 386, 384, 655, 2, 394, 699, 661, 665, 124, 338, 345, 759, 819, 918, 341, 628, 237, 216, 726, 763, 185, 988, 484, 310, 854, 313, 524, 285, 121, 799, 867, 496, 904, 84, 125, 183, 335, 897, 460, 178, 857, 141, 849, 612, 741, 169, 777, 149, 503, 7, 88, 457, 127, 52, 61, 467, 526, 759, 715, 867, 817, 923, 131, 664, 944, 949, 2, 291, 574, 109, 149, 326, 612, 222, 14, 44, 835, 654, 2, 173, 162, 680, 433, 659, 604, 206, 641, 723, 985, 70, 414, 732, 225, 144, 66, 144, 170, 581, 738, 984, 411, 846, 139, 871, 393, 478, 616, 513, 89, 398, 900, 671, 197, 720, 206, 134, 793, 615, 850, 234, 392, 97, 992, 877, 171, 638, 730, 488, 262, 903, 934, 980, 707, 636, 781, 64, 745, 713, 434, 742, 631, 615, 141, 104, 763, 333, 639, 903, 44, 928, 606, 68, 53, 879, 788, 853, 642, 915, 161, 723, 93, 20, 256, 760, 801, 709, 40, 374, 912, 308, 368, 928, 379, 574, 261, 535, 462, 235, 85, 253, 477, 520, 186, 294, 572, 50, 589, 31, 440, 979, 475, 115, 736, 537, 387, 91, 818, 902, 166, 862, 848, 888, 554, 111, 896, 125, 819, 370, 398, 660, 674, 410, 314, 968, 183, 224, 838, 396, 808, 319, 797, 370, 248, 568, 217, 336, 171, 379, 532, 499, 375, 292, 559, 905, 505, 139, 672, 3, 202, 308, 664, 924, 370, 978, 665, 478, 243, 747, 559, 370, 805, 532, 934, 711, 664, 24, 697, 935, 302, 125, 377, 161, 673, 290, 933, 545, 20, 270, 748, 824, 876, 340, 350, 137, 320]

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| Método | Tiempo |
| Burbuja | 85.93339 milisegundos. |
| QuickSort | 54.88664 milisegundos. |
| ShellSort | 40.73690 milisegundos. |
| Merge | 42.48658 milisegundos. |

Prueba 4.

[879, 895, 707, 238, 220, 256, 366, 724, 194, 289, 599, 553, 279, 187, 713, 681, 359, 112, 424, 999, 484, 774, 20, 782, 49, 72, 566, 251, 610, 56, 966, 62, 34, 249, 744, 820, 607, 482, 895, 999, 635, 74, 90, 622, 384, 875, 373, 645, 225, 855, 27, 962, 264, 421, 517, 821, 606, 406, 249, 577, 471, 107, 960, 515, 718, 327, 389, 569, 224, 951, 871, 382, 50, 523, 936, 672, 946, 187, 515, 591, 403, 419, 350, 790, 796, 4, 85, 830, 424, 585, 879, 293, 791, 664, 272, 789, 251, 220, 62, 750, 895, 791, 801, 53, 697, 460, 412, 819, 324, 206, 235, 295, 839, 377, 679, 924, 745, 552, 299, 112, 795, 512, 143, 777, 535, 727, 302, 961, 11, 93, 380, 631, 14, 879, 216, 586, 607, 446, 344, 893, 81, 247, 723, 507, 120, 726, 704, 211, 52, 328, 597, 547, 300, 935, 991, 545, 959, 280, 377, 123, 588, 603, 634, 852, 837, 376, 237, 352, 698, 611, 373, 539, 260, 423, 345, 249, 343, 809, 566, 69, 33, 920, 852, 524, 578, 93, 903, 662, 63, 108, 187, 115, 200, 499, 634, 130, 29, 440, 176, 928, 925, 757, 398, 807, 939, 651, 988, 336, 417, 42, 859, 407, 725, 537, 818, 710, 517, 443, 98, 42, 9, 341, 911, 116, 942, 437, 929, 971, 112, 506, 148, 55, 22, 418, 757, 190, 695, 979, 498, 271, 659, 760, 865, 711, 310, 27, 669, 357, 653, 129, 960, 460, 560, 605, 409, 838, 837, 583, 443, 551, 899, 142, 1000, 722, 611, 786, 181, 815, 157, 290, 160, 21, 393, 501, 275, 416, 460, 217, 145, 707, 174, 726, 533, 969, 460, 140, 839, 59, 471, 192, 842, 269, 249, 823, 252, 799, 322, 320, 353, 759, 754, 530, 375, 382, 775, 745, 739, 997, 674, 614, 848, 872, 171, 633, 110, 526, 376, 630, 672, 605, 453, 336, 863, 586, 900, 926, 209, 80, 321, 178, 550, 603, 343, 134, 794, 649, 360, 813, 430, 464, 899, 328, 292, 420, 317, 544, 620, 764, 857, 699, 850, 86, 870, 197, 965, 71, 295, 12, 370, 825, 145, 139, 186, 854, 460, 968, 314, 864, 864, 80, 461, 405, 690, 422, 972, 358, 782, 535, 966, 122, 848, 898, 450, 638, 207, 718, 832, 21, 331, 365, 392, 514, 884, 671, 591, 349, 957, 19, 250, 123, 658, 388, 799, 172, 484, 950, 125, 222, 501, 670, 194, 574, 130, 300, 68, 841, 747, 434, 96, 270, 690, 911, 967, 861, 753, 318, 6, 54, 864, 561, 110, 866, 635, 591, 615, 254, 708, 377, 404, 745, 765, 389, 804, 33, 353, 12, 750, 66, 245, 365, 344, 381, 645, 784, 51, 472, 457, 497, 583, 578, 638, 506, 512, 582, 395, 571, 117, 758, 993, 711, 192, 161, 561, 936, 256, 518, 662, 569, 120, 420, 923, 325, 281, 674, 820, 560, 254, 720, 491, 856, 226, 62, 483, 369, 115, 557, 528, 511, 951, 447]

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| Método | Tiempo |
| Burbuja | 87.96470 milisegundos. |
| QuickSort | 54.08570 milisegundos. |
| ShellSort | 40.95571 milisegundos. |
| Merge | 41.89378 milisegundos. |

Prueba 5.

[456, 780, 287, 180, 144, 427, 468, 582, 433, 230, 627, 632, 873, 127, 257, 93, 917, 342, 531, 757, 452, 68, 748, 205, 954, 462, 115, 975, 892, 583, 497, 525, 511, 910, 381, 491, 914, 643, 707, 743, 772, 820, 941, 815, 986, 278, 785, 661, 886, 13, 153, 262, 197, 666, 531, 723, 237, 868, 165, 622, 902, 16, 751, 703, 731, 573, 240, 272, 713, 784, 549, 29, 888, 973, 333, 289, 327, 423, 279, 364, 735, 4, 666, 786, 724, 246, 659, 289, 930, 798, 155, 521, 370, 988, 796, 103, 397, 874, 686, 594, 621, 130, 73, 913, 140, 202, 995, 339, 843, 459, 864, 900, 708, 572, 779, 588, 383, 818, 691, 451, 972, 622, 16, 946, 7, 515, 922, 559, 557, 680, 916, 751, 19, 922, 757, 146, 468, 21, 507, 219, 125, 99, 985, 157, 403, 578, 950, 413, 114, 892, 581, 750, 895, 779, 947, 705, 827, 296, 971, 724, 710, 687, 795, 413, 454, 613, 782, 712, 178, 384, 649, 96, 543, 371, 939, 107, 735, 166, 258, 753, 615, 685, 715, 822, 407, 183, 322, 1, 451, 398, 287, 777, 851, 98, 374, 436, 552, 218, 555, 388, 778, 238, 205, 574, 360, 674, 379, 638, 205, 192, 719, 428, 759, 970, 321, 418, 495, 226, 268, 742, 779, 389, 88, 641, 114, 192, 598, 213, 816, 280, 419, 69, 980, 319, 549, 521, 632, 522, 597, 81, 419, 773, 596, 487, 193, 136, 731, 976, 42, 156, 385, 413, 863, 517, 440, 475, 328, 210, 653, 912, 495, 165, 896, 328, 37, 308, 682, 109, 617, 797, 581, 49, 622, 397, 329, 454, 214, 601, 678, 857, 388, 240, 753, 554, 185, 620, 50, 193, 109, 931, 136, 847, 233, 434, 754, 360, 550, 132, 46, 447, 686, 939, 931, 378, 936, 43, 979, 493, 343, 599, 880, 202, 699, 164, 124, 80, 603, 333, 102, 153, 844, 868, 720, 153, 751, 680, 253, 468, 125, 247, 53, 79, 506, 704, 85, 927, 826, 520, 479, 499, 673, 734, 33, 911, 936, 918, 779, 216, 102, 621, 295, 225, 659, 825, 51, 73, 795, 957, 545, 865, 732, 503, 574, 416, 536, 442, 568, 807, 486, 778, 345, 59, 761, 726, 527, 754, 209, 425, 418, 15, 927, 604, 612, 942, 377, 550, 63, 941, 306, 75, 866, 762, 140, 974, 823, 720, 160, 520, 456, 40, 604, 195, 267, 497, 698, 83, 764, 118, 478, 204, 835, 957, 646, 307, 997, 282, 828, 851, 653, 738, 48, 41, 836, 865, 385, 36, 917, 467, 458, 711, 801, 678, 698, 683, 568, 464, 466, 97, 37, 551, 558, 993, 261, 744, 282, 343, 243, 844, 257, 753, 122, 344, 980, 619, 684, 108, 373, 797, 736, 485, 921, 827, 200, 945, 112, 671, 888, 973, 495, 447, 45, 483, 586, 238, 763, 878, 963, 783, 787, 433, 670, 200, 659, 40, 576, 406, 820, 64, 309, 891, 934, 479, 746, 46, 447, 357, 733, 749, 151, 361]

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| Método | Tiempo |
| Burbuja | 86.75322 milisegundos. |
| QuickSort | 56.40109 milisegundos. |
| ShellSort | 41.29194 milisegundos. |
| Merge | 42.33222 milisegundos. |

Prueba 6.

[565, 735, 449, 744, 715, 494, 611, 862, 532, 637, 695, 908, 936, 834, 205, 414, 233, 572, 321, 50, 857, 822, 579, 845, 63, 693, 186, 44, 369, 741, 726, 126, 636, 399, 577, 259, 14, 943, 931, 398, 272, 534, 24, 416, 0, 735, 685, 924, 803, 231, 472, 129, 170, 541, 98, 835, 689, 262, 963, 411, 274, 247, 665, 544, 154, 862, 981, 66, 122, 961, 990, 102, 200, 325, 296, 117, 666, 704, 328, 212, 317, 781, 978, 734, 663, 552, 646, 347, 568, 902, 203, 948, 262, 99, 366, 159, 403, 918, 27, 393, 408, 438, 82, 78, 914, 755, 69, 406, 859, 899, 397, 540, 204, 593, 59, 121, 515, 423, 874, 701, 791, 888, 440, 992, 15, 307, 875, 592, 116, 286, 513, 738, 241, 750, 395, 580, 434, 957, 124, 661, 377, 604, 77, 788, 637, 710, 609, 440, 1, 323, 146, 69, 675, 747, 109, 498, 515, 266, 394, 711, 110, 395, 695, 934, 753, 974, 350, 7, 679, 92, 13, 687, 197, 88, 326, 850, 584, 475, 950, 675, 374, 818, 707, 558, 93, 254, 582, 330, 842, 153, 612, 818, 805, 69, 192, 46, 609, 672, 156, 272, 497, 241, 32, 11, 935, 959, 724, 120, 266, 106, 737, 751, 939, 302, 962, 62, 129, 140, 469, 120, 491, 457, 253, 237, 415, 338, 325, 344, 158, 813, 373, 581, 962, 900, 335, 832, 519, 749, 487, 40, 4, 617, 496, 660, 110, 617, 980, 794, 243, 76, 950, 983, 847, 384, 795, 783, 833, 844, 204, 665, 556, 25, 83, 443, 852, 643, 22, 448, 476, 913, 603, 618, 955, 878, 913, 910, 779, 539, 889, 977, 925, 109, 808, 916, 717, 123, 69, 6, 798, 227, 584, 97, 542, 821, 249, 492, 134, 615, 956, 544, 509, 574, 417, 865, 877, 964, 21, 906, 814, 394, 360, 654, 163, 130, 299, 879, 669, 320, 243, 444, 702, 951, 307, 825, 876, 761, 197, 335, 887, 275, 1000, 996, 745, 680, 888, 135, 963, 946, 635, 239, 185, 722, 181, 370, 593, 965, 260, 785, 629, 306, 259, 718, 169, 302, 401, 786, 740, 270, 100, 129, 669, 267, 388, 436, 992, 887, 79, 750, 149, 323, 856, 874, 585, 535, 443, 73, 824, 183, 847, 773, 841, 947, 222, 469, 900, 484, 625, 19, 664, 104, 217, 591, 289, 85, 641, 144, 80, 470, 380, 67, 923, 186, 884, 930, 128, 265, 534, 333, 203, 458, 69, 902, 813, 480, 662, 710, 924, 359, 896, 576, 150, 866, 568, 44, 769, 420, 863, 510, 745, 650, 866, 241, 842, 6, 143, 46, 552, 900, 382, 491, 567, 103, 123, 526, 492, 136, 684, 367, 98, 91, 404, 167, 802, 292, 755, 782, 434, 494, 728, 85, 995, 612, 97, 284, 501, 530, 365, 796, 676, 437, 631, 841, 893, 711, 602, 487, 435, 985, 920, 734, 59, 990, 433, 54, 686, 188, 129, 282, 249, 720, 282, 453, 67, 312, 958, 44, 433, 987, 295, 143]

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| Método | Tiempo |
| Burbuja | 86.85914 milisegundos. |
| QuickSort | 54.34679 milisegundos. |
| ShellSort | 41.43973 milisegundos. |
| Merge | 43.81834 milisegundos. |

Prueba 7.

[230, 810, 748, 538, 952, 897, 900, 196, 697, 542, 175, 240, 119, 809, 23, 808, 840, 199, 932, 772, 906, 382, 804, 419, 69, 762, 57, 776, 471, 553, 943, 889, 236, 279, 482, 433, 533, 71, 832, 143, 128, 735, 588, 490, 993, 246, 945, 313, 888, 335, 830, 103, 587, 492, 765, 885, 210, 423, 343, 73, 389, 1000, 560, 790, 427, 618, 124, 932, 560, 37, 84, 922, 731, 566, 975, 393, 772, 513, 26, 87, 487, 1, 112, 961, 894, 306, 973, 125, 493, 499, 936, 298, 241, 811, 271, 461, 1, 228, 477, 856, 844, 840, 890, 923, 80, 854, 136, 619, 219, 515, 57, 658, 132, 824, 602, 586, 28, 514, 33, 783, 527, 904, 226, 147, 995, 826, 153, 405, 882, 257, 324, 733, 12, 981, 346, 932, 625, 559, 637, 999, 870, 4, 480, 37, 177, 563, 870, 520, 296, 324, 50, 28, 602, 205, 168, 579, 356, 436, 871, 61, 273, 718, 98, 272, 677, 466, 649, 303, 335, 202, 745, 995, 864, 934, 971, 162, 326, 441, 218, 971, 645, 113, 525, 436, 502, 279, 842, 257, 457, 485, 681, 64, 552, 161, 846, 15, 607, 640, 176, 847, 473, 117, 79, 991, 243, 63, 146, 394, 279, 387, 59, 107, 312, 140, 188, 187, 511, 746, 917, 681, 699, 791, 357, 551, 818, 192, 398, 949, 490, 707, 14, 314, 718, 258, 982, 499, 826, 273, 306, 624, 611, 774, 320, 741, 511, 693, 908, 927, 31, 932, 434, 404, 803, 103, 799, 82, 863, 67, 461, 379, 319, 199, 917, 225, 99, 121, 183, 660, 652, 466, 941, 432, 432, 429, 368, 566, 358, 393, 15, 981, 20, 16, 916, 670, 997, 656, 6, 539, 888, 703, 452, 700, 677, 316, 172, 108, 189, 965, 590, 934, 869, 612, 637, 279, 714, 656, 419, 984, 301, 529, 120, 70, 130, 767, 42, 519, 828, 89, 391, 292, 707, 173, 314, 945, 694, 934, 215, 773, 516, 937, 631, 239, 985, 432, 317, 357, 28, 612, 999, 983, 588, 124, 520, 476, 763, 0, 523, 718, 817, 264, 279, 813, 267, 167, 12, 362, 838, 420, 352, 739, 233, 596, 141, 243, 281, 641, 815, 543, 218, 614, 672, 653, 894, 250, 23, 813, 254, 283, 450, 958, 603, 942, 799, 836, 626, 552, 880, 521, 168, 577, 355, 542, 246, 608, 306, 409, 42, 590, 640, 588, 582, 642, 244, 473, 295, 447, 890, 891, 877, 231, 718, 19, 956, 472, 865, 89, 628, 140, 42, 540, 60, 661, 925, 426, 246, 83, 920, 84, 433, 202, 856, 832, 335, 452, 158, 58, 851, 957, 576, 699, 632, 755, 298, 682, 399, 720, 550, 960, 136, 865, 824, 172, 395, 279, 628, 81, 22, 550, 713, 967, 666, 747, 855, 778, 184, 566, 958, 612, 538, 877, 822, 78, 142, 461, 560, 364, 743, 651, 532, 323, 272, 528, 208, 76, 930, 915, 484, 842, 550, 976, 539, 887, 62, 554, 571, 597, 329, 890, 276, 576]

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| Método | Tiempo |
| Burbuja | 86.62965 milisegundos. |
| QuickSort | 54.20557 milisegundos. |
| ShellSort | 40.59116 milisegundos. |
| Merge | 42.88685 milisegundos. |

Prueba 8.

[602, 301, 227, 53, 369, 487, 766, 791, 213, 774, 125, 589, 630, 818, 426, 586, 619, 950, 939, 698, 428, 146, 751, 306, 783, 210, 571, 566, 296, 838, 940, 259, 43, 791, 232, 14, 639, 659, 974, 482, 674, 134, 483, 829, 626, 979, 3, 511, 376, 845, 301, 858, 202, 168, 664, 37, 776, 378, 482, 782, 30, 58, 845, 757, 139, 390, 60, 993, 747, 866, 659, 302, 737, 322, 7, 782, 858, 935, 353, 440, 580, 817, 759, 100, 86, 348, 108, 425, 550, 820, 23, 434, 446, 466, 531, 446, 981, 345, 784, 202, 743, 787, 136, 186, 310, 791, 484, 599, 30, 643, 130, 912, 444, 831, 456, 871, 517, 635, 398, 637, 203, 505, 445, 919, 55, 257, 944, 20, 842, 766, 346, 414, 50, 419, 896, 801, 577, 343, 608, 725, 809, 940, 211, 813, 112, 787, 75, 30, 889, 882, 469, 113, 82, 512, 734, 497, 394, 476, 685, 916, 33, 3, 872, 92, 732, 383, 607, 340, 69, 279, 274, 11, 942, 289, 452, 499, 949, 229, 357, 719, 955, 384, 48, 244, 29, 790, 724, 776, 814, 155, 770, 745, 223, 90, 351, 90, 776, 150, 965, 935, 15, 82, 670, 361, 267, 678, 0, 39, 99, 322, 444, 447, 523, 642, 123, 25, 265, 11, 311, 95, 507, 757, 689, 87, 143, 90, 215, 311, 935, 649, 966, 375, 817, 889, 7, 309, 741, 76, 214, 598, 932, 302, 142, 319, 370, 997, 71, 42, 562, 498, 185, 701, 35, 558, 22, 354, 680, 357, 420, 246, 583, 91, 129, 480, 910, 435, 108, 573, 375, 476, 305, 855, 730, 593, 770, 444, 600, 337, 203, 616, 816, 866, 536, 711, 179, 479, 80, 964, 473, 851, 583, 538, 74, 587, 170, 473, 641, 934, 331, 488, 970, 995, 10, 467, 713, 821, 782, 353, 678, 182, 99, 580, 957, 864, 956, 784, 874, 699, 208, 869, 882, 461, 617, 884, 542, 784, 609, 486, 482, 319, 208, 139, 311, 713, 114, 755, 22, 341, 974, 579, 930, 245, 296, 4, 197, 400, 882, 89, 903, 945, 22, 702, 447, 211, 54, 446, 419, 924, 766, 109, 672, 691, 11, 481, 695, 515, 940, 319, 772, 493, 685, 257, 420, 214, 10, 560, 344, 434, 627, 321, 983, 743, 914, 860, 495, 976, 312, 597, 739, 460, 358, 752, 571, 58, 466, 738, 524, 242, 3, 333, 713, 50, 293, 941, 723, 512, 201, 132, 626, 419, 611, 367, 850, 194, 24, 978, 644, 329, 776, 281, 57, 394, 722, 251, 854, 904, 306, 502, 73, 534, 35, 678, 672, 961, 324, 314, 962, 373, 864, 339, 752, 99, 961, 475, 488, 212, 437, 282, 966, 622, 295, 782, 897, 364, 537, 646, 243, 435, 938, 788, 919, 882, 602, 618, 272, 264, 61, 742, 819, 786, 15, 89, 967, 421, 804, 649, 154, 888, 51, 230, 976, 819, 621, 474, 24, 194, 715, 126, 164, 140, 481, 570, 2, 992, 138, 757, 329, 355, 741, 150]

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| Método | Tiempo |
| Burbuja | 89.28947 milisegundos. |
| QuickSort | 53.81721 milisegundos. |
| ShellSort | 40.61662 milisegundos. |
| Merge | 42.69554 milisegundos. |

Prueba 9.

[552, 45, 143, 710, 731, 783, 729, 653, 507, 389, 339, 384, 789, 769, 675, 77, 860, 892, 720, 922, 291, 859, 242, 158, 276, 618, 77, 336, 328, 106, 448, 42, 616, 854, 373, 150, 680, 62, 223, 743, 691, 564, 903, 818, 818, 128, 589, 503, 649, 0, 145, 873, 778, 895, 970, 147, 864, 825, 709, 159, 885, 188, 558, 285, 261, 827, 198, 422, 207, 310, 394, 467, 194, 693, 106, 492, 868, 820, 178, 693, 958, 409, 138, 227, 542, 66, 701, 154, 383, 209, 284, 880, 711, 12, 292, 681, 834, 318, 712, 380, 236, 199, 305, 740, 217, 954, 599, 652, 965, 84, 947, 38, 28, 894, 796, 582, 89, 416, 462, 850, 243, 310, 662, 488, 723, 769, 399, 10, 576, 941, 607, 265, 543, 499, 601, 612, 338, 683, 525, 717, 610, 318, 526, 38, 39, 758, 962, 159, 90, 952, 909, 602, 139, 667, 104, 342, 928, 66, 669, 870, 638, 806, 567, 763, 136, 197, 657, 816, 191, 274, 396, 207, 933, 199, 615, 423, 780, 112, 955, 201, 198, 473, 490, 759, 969, 487, 530, 372, 495, 393, 343, 75, 986, 192, 62, 331, 94, 480, 581, 170, 150, 212, 600, 901, 564, 449, 209, 277, 112, 511, 164, 559, 350, 946, 954, 674, 603, 836, 144, 789, 584, 623, 583, 855, 849, 509, 304, 58, 556, 184, 451, 346, 83, 532, 979, 442, 138, 168, 743, 763, 571, 254, 407, 668, 866, 841, 274, 1, 654, 867, 22, 307, 121, 15, 138, 249, 204, 503, 135, 619, 597, 598, 804, 692, 962, 624, 816, 825, 814, 403, 935, 292, 429, 598, 816, 315, 815, 279, 966, 9, 459, 778, 931, 491, 737, 631, 589, 389, 740, 160, 797, 422, 972, 760, 762, 654, 973, 431, 104, 8, 963, 165, 637, 351, 621, 319, 577, 474, 246, 925, 426, 211, 56, 235, 740, 743, 963, 563, 192, 785, 693, 991, 910, 997, 804, 30, 588, 441, 995, 63, 179, 171, 519, 345, 440, 229, 740, 453, 158, 146, 931, 389, 839, 975, 418, 222, 772, 886, 666, 361, 726, 467, 628, 433, 46, 484, 867, 139, 201, 925, 442, 473, 787, 720, 502, 670, 126, 930, 908, 875, 144, 771, 178, 887, 589, 592, 149, 19, 797, 844, 362, 464, 431, 245, 314, 481, 539, 928, 54, 194, 895, 557, 684, 724, 824, 53, 64, 171, 179, 602, 428, 831, 795, 140, 947, 161, 667, 216, 427, 94, 233, 735, 579, 570, 980, 460, 936, 245, 47, 90, 70, 952, 689, 420, 223, 925, 674, 761, 175, 354, 391, 474, 722, 245, 116, 21, 191, 162, 510, 602, 739, 916, 968, 925, 396, 529, 672, 417, 179, 169, 588, 935, 333, 167, 294, 639, 328, 815, 189, 89, 330, 286, 689, 566, 424, 531, 20, 424, 691, 968, 632, 22, 151, 857, 553, 155, 81, 807, 572, 207, 734, 795, 22, 242, 941, 694, 507, 198, 96, 516, 939, 111, 667, 62, 929, 855, 920, 365, 657, 850]

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| Método | Tiempo |
| Burbuja | 86.64812 milisegundos. |
| QuickSort | 54.77539 milisegundos. |
| ShellSort | 41.30713 milisegundos. |
| Merge | 42.39462 milisegundos. |

Prueba 10.

[414, 401, 917, 6, 344, 133, 754, 659, 261, 173, 298, 422, 106, 694, 695, 264, 944, 971, 871, 125, 255, 860, 731, 728, 922, 276, 172, 742, 800, 627, 346, 914, 190, 575, 96, 823, 68, 741, 332, 128, 309, 786, 779, 359, 745, 165, 417, 396, 249, 6, 482, 189, 930, 484, 488, 975, 474, 599, 791, 311, 894, 76, 716, 605, 13, 558, 494, 877, 692, 195, 228, 89, 603, 505, 607, 33, 155, 644, 569, 458, 450, 87, 350, 792, 352, 317, 85, 20, 118, 117, 600, 517, 181, 61, 866, 47, 468, 15, 793, 293, 6, 926, 238, 564, 760, 578, 607, 404, 74, 314, 89, 523, 602, 914, 351, 743, 202, 900, 853, 65, 256, 855, 636, 454, 305, 60, 100, 920, 745, 421, 873, 422, 375, 17, 398, 63, 397, 251, 687, 351, 152, 685, 805, 277, 83, 396, 511, 598, 293, 202, 600, 982, 671, 305, 190, 639, 49, 658, 378, 114, 667, 510, 886, 85, 190, 725, 252, 734, 111, 123, 965, 291, 135, 672, 747, 500, 657, 993, 747, 932, 620, 46, 42, 420, 554, 896, 556, 1000, 724, 383, 239, 558, 634, 127, 259, 61, 295, 789, 810, 481, 478, 562, 356, 316, 913, 132, 392, 737, 480, 910, 225, 732, 86, 505, 307, 938, 995, 895, 399, 416, 576, 894, 485, 143, 127, 102, 386, 190, 937, 484, 218, 963, 407, 765, 995, 795, 406, 994, 64, 675, 184, 567, 695, 15, 532, 162, 786, 26, 408, 578, 992, 302, 958, 657, 984, 525, 215, 692, 323, 543, 303, 299, 997, 896, 545, 592, 34, 479, 386, 42, 914, 340, 386, 322, 495, 617, 402, 657, 66, 207, 348, 207, 873, 639, 368, 136, 522, 251, 209, 618, 748, 530, 371, 429, 794, 346, 332, 77, 556, 26, 154, 731, 374, 450, 275, 113, 962, 343, 490, 850, 841, 421, 239, 165, 444, 877, 980, 500, 591, 953, 694, 305, 138, 499, 227, 330, 971, 604, 147, 165, 497, 674, 69, 187, 350, 839, 319, 920, 256, 222, 837, 950, 380, 925, 856, 552, 826, 266, 956, 600, 958, 656, 588, 401, 669, 729, 860, 167, 961, 526, 53, 168, 126, 593, 585, 123, 638, 149, 899, 454, 803, 500, 558, 804, 688, 126, 495, 462, 57, 919, 84, 146, 347, 812, 426, 767, 514, 199, 651, 777, 222, 717, 851, 370, 780, 258, 602, 781, 840, 684, 721, 659, 978, 607, 537, 986, 961, 774, 484, 78, 683, 302, 316, 59, 320, 907, 113, 127, 464, 269, 269, 891, 519, 854, 307, 581, 182, 680, 167, 929, 763, 825, 273, 198, 884, 835, 724, 356, 237, 349, 821, 772, 453, 812, 529, 778, 79, 766, 123, 228, 137, 851, 101, 820, 128, 993, 479, 550, 865, 742, 443, 628, 493, 822, 687, 861, 936, 229, 540, 463, 744, 275, 116, 189, 940, 592, 873, 770, 499, 974, 2, 176, 726, 578, 790, 206, 329, 973, 759, 998, 47, 945, 242, 768, 13, 854, 550, 268, 711, 570]

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| Método | Tiempo |
| Burbuja | 87.08903 milisegundos. |
| QuickSort | 54.61857 milisegundos. |
| ShellSort | 41.20080 milisegundos. |
| Merge | 43.17956 milisegundos. |

Prueba 11.

[588, 742, 889, 649, 854, 868, 336, 110, 195, 182, 284, 906, 538, 867, 410, 960, 488, 668, 343, 553, 51, 379, 393, 768, 144, 851, 626, 654, 497, 651, 235, 399, 189, 593, 871, 840, 472, 797, 359, 269, 694, 66, 331, 791, 991, 864, 65, 707, 305, 411, 394, 226, 891, 972, 297, 530, 691, 705, 636, 330, 574, 430, 274, 93, 845, 833, 700, 814, 312, 846, 540, 637, 923, 544, 447, 725, 618, 169, 431, 136, 740, 862, 572, 749, 655, 790, 265, 774, 704, 435, 551, 305, 630, 434, 198, 728, 165, 267, 616, 589, 480, 731, 447, 212, 723, 227, 343, 316, 861, 229, 934, 182, 949, 278, 246, 533, 579, 774, 824, 828, 767, 50, 544, 688, 193, 501, 975, 212, 100, 566, 399, 916, 898, 674, 417, 219, 641, 800, 541, 30, 460, 284, 155, 285, 537, 399, 764, 392, 40, 178, 371, 191, 67, 15, 789, 180, 540, 302, 974, 848, 427, 61, 129, 339, 918, 377, 269, 130, 791, 447, 838, 212, 245, 321, 784, 381, 90, 469, 769, 526, 48, 961, 546, 545, 535, 306, 572, 693, 962, 93, 385, 59, 991, 360, 359, 222, 94, 941, 382, 96, 384, 612, 892, 674, 489, 565, 121, 275, 94, 273, 598, 943, 539, 877, 701, 486, 958, 903, 722, 341, 446, 528, 610, 220, 294, 402, 91, 955, 820, 416, 37, 344, 864, 630, 772, 98, 606, 86, 176, 400, 364, 377, 15, 957, 931, 605, 669, 539, 859, 422, 434, 569, 293, 615, 495, 473, 573, 55, 481, 574, 160, 280, 261, 992, 384, 694, 150, 343, 36, 254, 303, 789, 615, 397, 890, 886, 874, 303, 343, 554, 612, 137, 148, 984, 978, 856, 810, 257, 357, 674, 484, 686, 526, 822, 546, 788, 250, 273, 274, 835, 668, 880, 120, 196, 719, 690, 28, 111, 979, 748, 752, 380, 724, 319, 15, 555, 445, 705, 334, 577, 5, 448, 647, 878, 306, 215, 689, 3, 945, 148, 703, 423, 847, 279, 756, 438, 924, 901, 737, 506, 70, 403, 338, 695, 919, 270, 741, 892, 563, 787, 165, 983, 427, 357, 286, 990, 109, 774, 316, 192, 368, 758, 874, 247, 655, 306, 685, 776, 619, 612, 385, 661, 686, 332, 572, 512, 255, 441, 905, 943, 634, 95, 192, 652, 246, 528, 438, 369, 607, 466, 443, 496, 399, 61, 938, 42, 929, 6, 787, 14, 420, 69, 123, 859, 527, 97, 545, 936, 168, 729, 702, 969, 398, 814, 808, 363, 271, 620, 935, 241, 540, 262, 659, 486, 875, 681, 225, 257, 972, 835, 56, 627, 32, 369, 804, 423, 692, 537, 104, 888, 921, 782, 224, 299, 711, 565, 882, 451, 13, 261, 7, 890, 870, 69, 179, 88, 93, 744, 46, 358, 390, 340, 105, 886, 219, 181, 258, 771, 58, 402, 159, 625, 146, 912, 570, 991, 588, 505, 577, 828, 749, 148, 492, 612, 789, 69, 927, 87, 765, 318, 286, 869, 171, 178, 777, 373, 534, 229, 394, 608]

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| Método | Tiempo |
| Burbuja | 87.56812 milisegundos. |
| QuickSort | 54.03192 milisegundos. |
| ShellSort | 43.12947 milisegundos. |
| Merge | 42.32606 milisegundos. |

Prueba 12.

[257, 579, 733, 487, 646, 801, 761, 256, 190, 630, 282, 652, 500, 582, 826, 716, 568, 783, 347, 969, 205, 92, 845, 66, 593, 819, 35, 338, 735, 15, 527, 56, 543, 712, 616, 546, 620, 171, 173, 302, 859, 495, 237, 817, 843, 122, 985, 410, 62, 516, 361, 518, 606, 517, 154, 612, 807, 420, 861, 816, 830, 771, 978, 336, 576, 528, 885, 253, 869, 301, 168, 675, 161, 259, 198, 161, 488, 93, 742, 393, 230, 68, 654, 351, 497, 5, 249, 709, 20, 653, 918, 433, 215, 20, 175, 940, 903, 532, 70, 70, 53, 418, 954, 743, 152, 874, 553, 951, 59, 537, 130, 234, 166, 88, 287, 390, 937, 312, 259, 749, 336, 202, 286, 589, 84, 856, 905, 792, 132, 622, 583, 961, 741, 76, 453, 693, 186, 157, 857, 499, 557, 699, 897, 495, 285, 929, 788, 995, 366, 991, 180, 271, 930, 721, 171, 436, 135, 3, 479, 872, 739, 403, 176, 64, 619, 300, 743, 228, 780, 428, 941, 434, 390, 76, 979, 301, 608, 177, 359, 181, 557, 595, 59, 389, 807, 949, 860, 173, 915, 686, 723, 570, 779, 646, 745, 825, 386, 174, 830, 162, 308, 633, 110, 290, 758, 159, 858, 970, 505, 661, 779, 29, 355, 195, 523, 918, 753, 128, 65, 418, 248, 288, 27, 498, 750, 468, 401, 850, 530, 725, 259, 198, 4, 380, 21, 598, 413, 214, 355, 543, 578, 373, 581, 553, 217, 320, 30, 103, 230, 851, 32, 696, 244, 205, 880, 890, 16, 602, 314, 786, 905, 635, 733, 109, 251, 491, 925, 112, 992, 927, 279, 75, 416, 552, 247, 423, 935, 644, 272, 504, 531, 597, 663, 397, 39, 79, 306, 932, 164, 229, 858, 266, 738, 885, 370, 445, 719, 734, 225, 316, 961, 204, 264, 121, 590, 996, 293, 941, 36, 635, 33, 893, 689, 504, 340, 560, 77, 686, 446, 820, 810, 709, 913, 786, 705, 696, 471, 581, 773, 11, 190, 367, 5, 651, 613, 883, 482, 875, 104, 239, 710, 308, 142, 984, 834, 101, 575, 95, 947, 773, 700, 151, 346, 547, 186, 878, 69, 647, 918, 560, 385, 782, 554, 437, 980, 238, 79, 358, 500, 572, 257, 595, 993, 666, 77, 895, 467, 781, 806, 549, 124, 470, 227, 452, 329, 836, 235, 782, 869, 164, 973, 600, 284, 795, 213, 805, 1, 175, 463, 484, 125, 300, 858, 899, 659, 177, 29, 941, 874, 761, 65, 555, 112, 425, 674, 493, 253, 509, 363, 575, 981, 974, 34, 836, 549, 821, 331, 295, 75, 788, 595, 75, 320, 244, 701, 710, 71, 349, 688, 659, 147, 291, 441, 389, 936, 955, 619, 689, 253, 161, 917, 506, 534, 616, 680, 367, 67, 623, 86, 847, 806, 87, 461, 847, 455, 178, 229, 490, 498, 543, 481, 325, 552, 918, 699, 577, 891, 80, 8, 9, 114, 586, 324, 853, 219, 906, 52, 775, 395, 227, 436, 12, 867, 650, 322, 761, 430, 241, 855, 115]

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| Método | Tiempo |
| Burbuja | 87.71715 milisegundos. |
| QuickSort | 54.28070 milisegundos. |
| ShellSort | 40.58542 milisegundos. |
| Merge | 41.99600 milisegundos. |

Prueba 13.

[838, 773, 9, 676, 370, 617, 728, 542, 743, 467, 667, 399, 878, 371, 90, 938, 810, 478, 460, 81, 227, 221, 807, 557, 682, 909, 378, 213, 856, 504, 950, 638, 94, 727, 569, 355, 808, 69, 289, 976, 225, 704, 580, 884, 83, 911, 841, 579, 506, 692, 491, 640, 525, 963, 537, 946, 208, 430, 632, 721, 226, 22, 722, 89, 613, 93, 877, 78, 504, 294, 618, 77, 616, 432, 210, 74, 968, 815, 25, 192, 255, 649, 466, 272, 538, 502, 833, 494, 501, 207, 490, 66, 922, 272, 476, 597, 470, 986, 961, 647, 819, 685, 360, 940, 317, 184, 678, 567, 807, 999, 887, 471, 632, 323, 979, 792, 836, 231, 211, 777, 298, 833, 801, 535, 792, 764, 358, 157, 503, 436, 819, 543, 737, 715, 565, 482, 641, 654, 554, 163, 543, 203, 536, 321, 197, 559, 9, 735, 72, 807, 157, 676, 658, 937, 421, 297, 505, 188, 173, 284, 239, 262, 213, 136, 377, 373, 350, 59, 540, 793, 134, 730, 419, 560, 491, 965, 764, 698, 760, 395, 55, 772, 550, 597, 587, 792, 614, 301, 252, 28, 891, 608, 394, 381, 609, 663, 863, 688, 313, 539, 829, 119, 790, 300, 252, 632, 713, 516, 170, 537, 315, 984, 888, 189, 580, 900, 147, 666, 546, 364, 192, 979, 818, 818, 767, 54, 732, 813, 749, 887, 728, 471, 118, 687, 244, 631, 595, 915, 416, 956, 871, 221, 140, 235, 940, 903, 815, 888, 803, 941, 710, 961, 949, 813, 304, 240, 645, 614, 542, 924, 471, 877, 343, 924, 212, 981, 681, 323, 755, 98, 309, 231, 305, 507, 950, 219, 652, 670, 358, 398, 848, 826, 505, 418, 820, 442, 307, 712, 294, 588, 344, 555, 907, 480, 448, 848, 599, 884, 347, 588, 456, 173, 341, 330, 511, 206, 167, 64, 876, 418, 107, 996, 325, 561, 727, 515, 39, 485, 581, 308, 664, 978, 144, 985, 791, 86, 406, 205, 505, 660, 77, 736, 950, 865, 512, 720, 938, 510, 382, 737, 320, 270, 260, 456, 636, 967, 740, 273, 251, 169, 663, 891, 434, 171, 691, 188, 561, 808, 638, 920, 583, 785, 454, 678, 825, 893, 50, 833, 850, 38, 493, 117, 692, 57, 248, 759, 448, 806, 706, 372, 645, 832, 838, 141, 615, 564, 958, 549, 941, 463, 248, 584, 411, 666, 710, 41, 313, 121, 61, 210, 8, 444, 626, 713, 831, 522, 149, 4, 601, 811, 486, 399, 684, 319, 20, 55, 966, 39, 18, 989, 762, 9, 846, 547, 286, 958, 44, 588, 698, 878, 764, 104, 505, 678, 543, 462, 404, 556, 735, 43, 626, 394, 511, 315, 180, 986, 656, 848, 63, 567, 203, 350, 791, 724, 709, 553, 978, 686, 380, 439, 478, 427, 803, 208, 285, 542, 137, 148, 607, 142, 747, 649, 476, 726, 714, 767, 359, 518, 390, 568, 774, 40, 491, 976, 536, 343, 847, 808, 415, 820, 847, 590, 53, 896, 113, 12, 524, 566, 447, 647]

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| Método | Tiempo |
| Burbuja | 87.97126 milisegundos. |
| QuickSort | 54.50731 milisegundos. |
| ShellSort | 40.98486 milisegundos. |
| Merge | 42.76779 milisegundos. |

Prueba 14.

[543, 917, 813, 312, 695, 638, 35, 486, 297, 558, 209, 996, 89, 845, 660, 835, 329, 145, 41, 378, 385, 505, 132, 618, 167, 199, 554, 396, 178, 851, 277, 292, 924, 356, 553, 668, 434, 68, 629, 693, 513, 120, 64, 13, 714, 70, 300, 4, 599, 702, 680, 241, 952, 914, 896, 406, 637, 111, 296, 283, 345, 12, 436, 103, 791, 214, 867, 64, 604, 469, 345, 294, 114, 938, 460, 895, 438, 165, 734, 870, 800, 24, 997, 620, 287, 534, 383, 524, 227, 491, 316, 855, 211, 790, 93, 897, 317, 664, 7, 298, 721, 580, 27, 822, 610, 454, 245, 318, 357, 163, 957, 62, 629, 698, 32, 429, 277, 334, 279, 522, 49, 32, 178, 527, 870, 144, 746, 399, 542, 790, 126, 641, 832, 373, 133, 184, 569, 666, 225, 724, 184, 675, 985, 522, 594, 484, 677, 824, 764, 759, 445, 720, 4, 995, 417, 543, 866, 284, 132, 541, 883, 71, 829, 219, 9, 59, 88, 578, 505, 25, 5, 299, 270, 909, 778, 908, 860, 128, 837, 637, 888, 35, 677, 230, 874, 905, 428, 676, 890, 752, 543, 961, 546, 264, 314, 981, 982, 74, 86, 260, 84, 78, 240, 925, 668, 338, 458, 335, 106, 170, 17, 312, 318, 252, 504, 452, 905, 310, 223, 205, 580, 13, 295, 28, 972, 333, 731, 501, 918, 501, 264, 754, 780, 142, 588, 568, 122, 862, 629, 761, 540, 46, 595, 937, 788, 678, 524, 529, 221, 971, 128, 786, 180, 961, 331, 590, 914, 738, 38, 304, 481, 411, 524, 3, 648, 806, 147, 120, 922, 384, 581, 63, 446, 658, 32, 241, 384, 522, 641, 466, 626, 601, 299, 321, 482, 303, 395, 224, 871, 973, 341, 695, 128, 705, 89, 186, 319, 934, 803, 784, 916, 400, 141, 942, 438, 114, 111, 66, 898, 458, 219, 165, 582, 502, 407, 940, 298, 432, 866, 672, 318, 314, 897, 129, 132, 694, 548, 600, 203, 876, 325, 959, 965, 651, 76, 598, 999, 76, 7, 125, 408, 70, 711, 612, 693, 800, 227, 26, 748, 549, 796, 774, 802, 332, 196, 189, 618, 572, 209, 99, 391, 657, 374, 613, 1, 31, 747, 150, 643, 42, 459, 937, 846, 404, 107, 242, 73, 137, 948, 59, 145, 666, 625, 545, 555, 623, 900, 38, 817, 123, 648, 469, 672, 744, 482, 524, 115, 644, 718, 948, 88, 708, 782, 927, 482, 903, 849, 894, 108, 660, 502, 167, 764, 596, 968, 347, 59, 870, 253, 669, 899, 404, 161, 485, 550, 542, 747, 213, 652, 80, 674, 326, 346, 850, 419, 576, 881, 857, 438, 230, 291, 696, 314, 465, 138, 928, 279, 415, 887, 849, 253, 227, 223, 465, 433, 508, 868, 23, 181, 746, 391, 210, 135, 463, 554, 775, 960, 96, 740, 634, 897, 333, 389, 896, 737, 951, 617, 349, 120, 77, 61, 417, 104, 859, 276, 662, 765, 493, 84, 784, 523, 775, 496, 67, 294, 632, 860, 185, 99, 115]

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| Método | Tiempo |
| Burbuja | 86.49007 milisegundos. |
| QuickSort | 54.39072 milisegundos. |
| ShellSort | 40.91302 milisegundos. |
| Merge | 41.80715 milisegundos. |

Prueba 15.

[433, 791, 902, 292, 310, 259, 914, 722, 22, 309, 149, 432, 928, 106, 454, 76, 472, 322, 866, 735, 135, 25, 442, 605, 832, 979, 882, 169, 52, 941, 581, 878, 498, 465, 502, 374, 958, 694, 160, 224, 148, 699, 628, 144, 742, 156, 493, 97, 335, 57, 844, 7, 766, 162, 226, 32, 215, 674, 468, 191, 320, 941, 162, 208, 506, 953, 134, 102, 218, 773, 71, 390, 318, 37, 365, 538, 357, 670, 621, 364, 394, 926, 503, 883, 621, 563, 109, 897, 263, 606, 56, 305, 596, 738, 13, 286, 87, 47, 896, 362, 550, 178, 827, 711, 243, 858, 724, 21, 773, 742, 276, 136, 635, 866, 170, 62, 701, 585, 757, 491, 350, 130, 33, 938, 488, 334, 48, 230, 74, 739, 434, 827, 864, 876, 879, 587, 468, 922, 533, 2, 830, 760, 631, 195, 810, 452, 96, 611, 986, 697, 335, 549, 250, 117, 737, 633, 432, 440, 7, 20, 184, 743, 208, 968, 321, 633, 821, 141, 152, 53, 555, 794, 237, 130, 60, 970, 726, 242, 798, 733, 8, 65, 729, 414, 86, 441, 255, 194, 44, 143, 234, 339, 858, 220, 976, 833, 969, 22, 26, 23, 639, 965, 130, 554, 254, 935, 37, 614, 128, 912, 396, 930, 928, 199, 354, 842, 807, 640, 346, 771, 644, 992, 871, 300, 457, 625, 394, 287, 842, 811, 242, 806, 216, 199, 843, 695, 151, 664, 303, 628, 572, 619, 794, 860, 33, 420, 78, 220, 296, 926, 740, 805, 701, 880, 851, 719, 498, 484, 756, 977, 43, 71, 163, 82, 968, 934, 963, 337, 641, 951, 379, 76, 308, 150, 141, 851, 17, 101, 476, 569, 56, 624, 881, 582, 764, 313, 914, 688, 643, 648, 816, 18, 639, 793, 923, 706, 494, 196, 118, 595, 817, 728, 499, 402, 685, 573, 406, 825, 214, 686, 203, 903, 543, 8, 231, 81, 473, 811, 731, 71, 744, 453, 258, 654, 324, 557, 516, 114, 299, 561, 626, 640, 320, 315, 115, 142, 300, 412, 536, 916, 34, 645, 386, 741, 662, 670, 853, 778, 969, 65, 271, 148, 946, 648, 795, 742, 343, 217, 227, 841, 832, 964, 86, 366, 352, 992, 844, 716, 432, 385, 501, 413, 953, 612, 965, 652, 497, 635, 759, 379, 882, 517, 261, 386, 559, 271, 778, 288, 600, 251, 796, 327, 172, 636, 531, 571, 918, 97, 750, 750, 793, 68, 366, 511, 801, 199, 712, 740, 356, 294, 989, 725, 878, 71, 730, 531, 542, 461, 373, 515, 764, 276, 500, 242, 988, 755, 593, 819, 447, 303, 501, 351, 809, 978, 494, 256, 489, 413, 489, 19, 857, 540, 936, 98, 788, 618, 172, 828, 163, 661, 605, 739, 549, 971, 765, 415, 141, 541, 234, 270, 311, 233, 166, 995, 396, 37, 25, 524, 828, 898, 947, 298, 622, 729, 57, 303, 659, 562, 450, 86, 432, 378, 197, 869, 453, 71, 531, 771, 766, 325, 448, 497, 323, 855, 681, 180, 634, 988, 419, 420]

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| Método | Tiempo |
| Burbuja | 87.95033 milisegundos. |
| QuickSort | 53.82255 milisegundos. |
| ShellSort | 40.92451 milisegundos. |
| Merge | 42.49356 milisegundos. |

Prueba 16.

[359, 318, 602, 92, 92, 768, 760, 602, 151, 770, 788, 999, 70, 541, 320, 453, 77, 31, 563, 546, 18, 408, 739, 767, 390, 230, 251, 175, 192, 105, 596, 924, 277, 438, 788, 418, 44, 188, 125, 837, 494, 368, 426, 258, 272, 123, 941, 678, 373, 469, 278, 365, 567, 117, 94, 534, 643, 766, 846, 8, 263, 560, 94, 117, 203, 960, 992, 722, 800, 136, 210, 272, 51, 351, 723, 759, 498, 759, 270, 756, 653, 31, 584, 616, 80, 517, 611, 923, 823, 547, 40, 458, 952, 948, 235, 128, 916, 740, 254, 128, 694, 455, 854, 236, 55, 487, 415, 213, 860, 335, 993, 101, 206, 619, 227, 126, 779, 531, 555, 501, 55, 276, 402, 40, 54, 240, 367, 412, 543, 768, 234, 163, 818, 479, 7, 242, 851, 778, 563, 644, 248, 902, 622, 528, 871, 965, 550, 340, 715, 673, 805, 586, 680, 132, 469, 481, 329, 227, 411, 477, 597, 756, 940, 999, 101, 94, 316, 312, 704, 180, 735, 990, 734, 648, 207, 269, 611, 236, 540, 129, 643, 110, 202, 911, 591, 545, 354, 868, 790, 50, 436, 192, 891, 477, 712, 343, 19, 171, 839, 493, 950, 667, 713, 310, 544, 971, 238, 954, 72, 44, 514, 202, 797, 221, 786, 658, 967, 703, 85, 717, 960, 449, 818, 503, 309, 482, 895, 124, 666, 512, 516, 739, 717, 31, 795, 846, 992, 858, 668, 485, 305, 829, 958, 108, 355, 882, 695, 551, 184, 10, 524, 499, 936, 470, 164, 52, 23, 358, 42, 549, 898, 862, 215, 999, 679, 859, 410, 211, 414, 14, 445, 915, 832, 144, 445, 737, 769, 730, 850, 186, 80, 169, 632, 903, 677, 957, 789, 940, 973, 509, 181, 670, 112, 131, 917, 614, 919, 509, 641, 522, 508, 445, 588, 390, 621, 104, 544, 209, 991, 194, 752, 488, 388, 830, 214, 589, 426, 87, 859, 279, 617, 658, 66, 688, 927, 303, 688, 261, 945, 336, 94, 778, 393, 865, 503, 742, 535, 483, 866, 524, 731, 79, 963, 258, 470, 222, 545, 134, 494, 970, 111, 751, 955, 979, 409, 568, 137, 720, 73, 682, 64, 41, 401, 128, 140, 763, 798, 910, 821, 888, 34, 655, 790, 579, 836, 340, 552, 633, 609, 778, 35, 432, 255, 733, 629, 105, 949, 485, 528, 499, 214, 554, 617, 858, 535, 879, 300, 299, 158, 570, 811, 960, 779, 382, 957, 801, 323, 470, 925, 677, 152, 452, 39, 287, 810, 545, 689, 715, 238, 880, 943, 702, 240, 606, 476, 501, 909, 813, 596, 901, 19, 953, 468, 84, 787, 3, 312, 123, 454, 923, 173, 476, 882, 753, 363, 775, 991, 179, 69, 297, 810, 844, 455, 470, 641, 965, 180, 808, 965, 332, 788, 239, 151, 980, 490, 514, 483, 334, 607, 588, 496, 765, 704, 850, 963, 730, 278, 63, 133, 736, 625, 331, 348, 305, 361, 947, 98, 837, 183, 978, 410, 565, 773, 911, 851, 625, 590, 50, 638, 712]

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| Método | Tiempo |
| Burbuja | 86.28727 milisegundos. |
| QuickSort | 54.79510 milisegundos. |
| ShellSort | 40.29640 milisegundos. |
| Merge | 42.82650 milisegundos. |

Prueba 17.

[680, 593, 121, 584, 549, 685, 916, 967, 17, 274, 178, 316, 355, 558, 226, 248, 400, 88, 484, 654, 946, 218, 976, 74, 421, 45, 929, 836, 415, 118, 304, 230, 552, 615, 164, 239, 370, 111, 508, 627, 765, 870, 690, 202, 32, 144, 394, 787, 494, 393, 91, 127, 233, 167, 769, 156, 98, 419, 891, 980, 432, 273, 224, 953, 814, 283, 490, 846, 232, 731, 6, 277, 777, 662, 638, 749, 45, 68, 552, 697, 497, 726, 845, 515, 37, 545, 23, 7, 476, 489, 739, 351, 984, 845, 137, 230, 362, 657, 946, 410, 817, 433, 381, 629, 885, 413, 594, 371, 98, 24, 267, 138, 931, 734, 22, 541, 967, 352, 668, 949, 678, 442, 588, 732, 788, 777, 619, 135, 984, 533, 273, 953, 116, 803, 476, 21, 590, 109, 410, 608, 213, 210, 151, 251, 52, 442, 85, 352, 556, 155, 562, 584, 23, 77, 869, 837, 539, 802, 189, 472, 254, 571, 722, 305, 612, 18, 743, 679, 962, 537, 307, 783, 635, 858, 254, 808, 13, 219, 394, 14, 791, 131, 595, 512, 753, 150, 569, 724, 197, 953, 797, 841, 499, 885, 727, 52, 759, 146, 996, 754, 562, 655, 89, 612, 616, 962, 463, 841, 509, 205, 248, 507, 683, 82, 523, 966, 75, 608, 664, 377, 732, 748, 946, 636, 78, 349, 251, 853, 281, 989, 661, 698, 922, 723, 306, 491, 237, 388, 428, 866, 234, 883, 844, 343, 802, 165, 122, 812, 485, 716, 201, 90, 411, 41, 74, 373, 540, 356, 691, 126, 459, 64, 845, 486, 512, 172, 789, 249, 420, 174, 812, 746, 811, 580, 134, 788, 685, 432, 927, 574, 977, 318, 408, 696, 724, 428, 395, 904, 697, 384, 712, 731, 590, 125, 327, 581, 23, 889, 429, 425, 126, 227, 341, 268, 452, 250, 927, 552, 137, 817, 602, 640, 341, 329, 17, 712, 963, 667, 140, 569, 723, 870, 796, 747, 186, 325, 308, 646, 919, 222, 425, 870, 531, 641, 515, 0, 770, 871, 740, 919, 902, 753, 539, 328, 615, 432, 865, 655, 775, 921, 708, 740, 953, 199, 780, 921, 841, 383, 933, 407, 530, 504, 427, 583, 278, 481, 902, 75, 83, 891, 950, 151, 251, 409, 344, 593, 244, 140, 438, 874, 365, 987, 608, 1, 51, 944, 879, 42, 926, 83, 966, 310, 180, 611, 504, 147, 23, 891, 107, 254, 665, 129, 943, 303, 998, 450, 75, 668, 762, 646, 495, 28, 831, 642, 252, 795, 657, 402, 705, 778, 331, 236, 758, 404, 41, 969, 441, 386, 908, 640, 799, 855, 65, 75, 157, 474, 584, 641, 12, 436, 101, 778, 673, 641, 378, 404, 663, 720, 192, 804, 492, 879, 377, 800, 403, 840, 644, 640, 705, 116, 937, 67, 589, 832, 133, 787, 484, 290, 976, 4, 364, 414, 891, 446, 665, 137, 232, 49, 908, 839, 205, 600, 853, 136, 348, 260, 353, 306, 778, 671, 737, 949, 935, 276, 296, 172, 573, 235, 670, 767]

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| Método | Tiempo |
| Burbuja | 85.22112 milisegundos. |
| QuickSort | 54.45025 milisegundos. |
| ShellSort | 41.24103 milisegundos. |
| Merge | 43.46693 milisegundos. |

Prueba 18.

[417, 992, 163, 220, 814, 148, 838, 7, 143, 145, 843, 294, 244, 211, 396, 452, 113, 344, 173, 440, 203, 125, 855, 895, 686, 138, 929, 438, 420, 487, 891, 68, 815, 528, 884, 747, 736, 171, 900, 792, 218, 975, 565, 876, 337, 461, 816, 468, 356, 424, 909, 265, 645, 889, 894, 538, 66, 39, 357, 687, 841, 192, 401, 929, 787, 356, 646, 549, 504, 308, 912, 784, 208, 913, 380, 517, 55, 35, 359, 997, 94, 735, 418, 229, 120, 944, 391, 369, 528, 820, 333, 394, 853, 329, 611, 575, 1000, 635, 375, 460, 954, 383, 178, 267, 774, 557, 0, 334, 705, 911, 123, 198, 656, 310, 539, 730, 237, 986, 184, 388, 502, 267, 450, 559, 197, 974, 838, 594, 147, 371, 145, 785, 513, 237, 439, 762, 649, 565, 696, 603, 95, 112, 602, 536, 219, 961, 802, 103, 538, 262, 324, 437, 474, 883, 333, 30, 64, 880, 172, 516, 556, 826, 921, 108, 455, 861, 769, 825, 721, 536, 975, 257, 192, 616, 682, 229, 962, 64, 705, 328, 413, 630, 82, 711, 1000, 838, 544, 487, 843, 342, 573, 479, 180, 727, 613, 293, 127, 985, 435, 636, 611, 46, 189, 304, 726, 293, 861, 571, 240, 468, 727, 549, 454, 274, 896, 80, 949, 18, 648, 698, 541, 280, 42, 377, 176, 205, 418, 878, 214, 368, 88, 488, 310, 924, 666, 175, 939, 305, 399, 602, 337, 970, 11, 338, 292, 867, 19, 233, 898, 33, 75, 612, 494, 132, 239, 836, 301, 231, 95, 184, 368, 580, 876, 887, 876, 726, 728, 438, 248, 960, 749, 618, 967, 247, 713, 333, 977, 154, 332, 464, 927, 298, 174, 443, 774, 705, 516, 294, 143, 643, 572, 911, 897, 496, 945, 207, 207, 209, 121, 75, 148, 427, 240, 751, 755, 453, 943, 925, 560, 3, 260, 795, 679, 705, 88, 146, 531, 934, 55, 979, 827, 832, 311, 49, 933, 424, 698, 413, 772, 340, 666, 962, 743, 168, 980, 35, 990, 540, 75, 591, 97, 137, 390, 919, 254, 579, 394, 633, 497, 356, 531, 823, 673, 817, 126, 436, 851, 864, 11, 901, 935, 1, 563, 657, 175, 322, 491, 517, 191, 553, 246, 768, 518, 640, 386, 567, 868, 402, 618, 746, 968, 935, 720, 581, 188, 698, 123, 573, 838, 755, 681, 658, 133, 677, 550, 135, 364, 954, 530, 908, 981, 665, 690, 482, 15, 632, 477, 760, 655, 988, 940, 501, 509, 738, 673, 747, 372, 233, 537, 225, 458, 950, 89, 650, 748, 295, 440, 507, 645, 964, 682, 521, 734, 431, 758, 701, 996, 395, 962, 37, 427, 815, 833, 531, 372, 596, 399, 36, 615, 379, 326, 787, 397, 461, 52, 236, 269, 212, 863, 645, 159, 272, 533, 114, 578, 198, 849, 251, 172, 754, 847, 598, 229, 967, 365, 823, 873, 813, 832, 875, 472, 120, 678, 719, 171, 286, 7, 487, 189, 352, 22, 689, 92, 596, 90, 586, 141, 560, 171, 664]

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| Método | Tiempo |
| Burbuja | 89.88064 milisegundos. |
| QuickSort | 54.70519 milisegundos. |
| ShellSort | 41.63104 milisegundos. |
| Merge | 42.30389 milisegundos. |

Prueba 19.

[367, 723, 25, 407, 352, 568, 531, 265, 862, 615, 68, 361, 619, 744, 159, 747, 284, 731, 292, 382, 707, 748, 908, 963, 410, 237, 547, 63, 142, 588, 953, 162, 955, 811, 109, 213, 553, 797, 859, 832, 96, 266, 886, 829, 503, 636, 947, 804, 843, 415, 599, 695, 158, 636, 765, 814, 998, 840, 263, 281, 69, 471, 378, 128, 619, 837, 676, 252, 921, 139, 618, 996, 553, 397, 119, 66, 637, 94, 516, 96, 933, 814, 367, 423, 61, 588, 642, 727, 115, 557, 484, 207, 937, 371, 213, 374, 180, 817, 109, 304, 309, 302, 571, 392, 955, 535, 908, 373, 60, 163, 471, 80, 774, 88, 443, 807, 579, 600, 472, 538, 630, 10, 758, 171, 350, 693, 570, 32, 652, 713, 793, 398, 253, 601, 170, 350, 233, 682, 997, 558, 993, 386, 630, 105, 199, 313, 89, 748, 55, 121, 578, 506, 186, 478, 997, 376, 571, 295, 227, 57, 735, 764, 820, 509, 500, 350, 54, 321, 483, 568, 794, 408, 794, 831, 446, 996, 998, 783, 755, 492, 362, 742, 708, 24, 847, 830, 922, 595, 961, 712, 590, 847, 426, 891, 547, 635, 786, 610, 697, 751, 242, 426, 69, 439, 580, 621, 32, 17, 7, 229, 163, 167, 898, 904, 976, 148, 554, 61, 942, 266, 881, 903, 909, 243, 902, 245, 328, 182, 991, 49, 504, 266, 836, 801, 484, 290, 989, 685, 155, 43, 992, 480, 540, 418, 109, 774, 626, 111, 975, 607, 932, 606, 754, 903, 895, 298, 740, 768, 813, 293, 199, 236, 402, 489, 98, 636, 821, 720, 96, 968, 921, 458, 310, 543, 68, 853, 645, 518, 127, 801, 288, 139, 922, 867, 237, 866, 538, 694, 13, 705, 340, 108, 429, 110, 904, 233, 179, 857, 166, 792, 712, 163, 355, 202, 276, 457, 775, 748, 264, 219, 971, 996, 720, 589, 195, 723, 888, 669, 437, 361, 844, 648, 535, 609, 947, 232, 240, 974, 26, 176, 144, 960, 449, 924, 457, 641, 433, 567, 124, 737, 759, 866, 817, 957, 23, 641, 388, 470, 588, 748, 31, 75, 997, 854, 179, 271, 838, 268, 134, 398, 221, 974, 789, 650, 30, 692, 759, 980, 505, 386, 187, 144, 465, 113, 615, 670, 769, 881, 93, 119, 966, 114, 49, 91, 653, 113, 415, 567, 137, 725, 130, 313, 514, 65, 794, 639, 280, 441, 245, 941, 462, 697, 372, 957, 168, 794, 207, 627, 421, 640, 241, 898, 571, 59, 434, 667, 516, 277, 369, 654, 717, 966, 345, 461, 125, 680, 81, 902, 217, 622, 898, 625, 918, 20, 798, 317, 823, 971, 949, 66, 50, 876, 379, 163, 638, 23, 233, 92, 745, 431, 334, 924, 150, 60, 506, 908, 194, 99, 914, 14, 908, 727, 106, 483, 388, 334, 478, 869, 266, 464, 549, 455, 796, 986, 682, 662, 8, 308, 124, 837, 96, 117, 442, 184, 719, 96, 985, 385, 494, 722, 625, 999, 27, 369, 887, 914, 835, 898, 950, 288]

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| Método | Tiempo |
| Burbuja | 89.00375 milisegundos. |
| QuickSort | 54.95192 milisegundos. |
| ShellSort | 41.29686 milisegundos. |
| Merge | 41.66224 milisegundos. |

Prueba 20.

[413, 122, 983, 682, 721, 299, 644, 248, 458, 325, 740, 856, 321, 701, 496, 849, 147, 709, 481, 153, 67, 697, 459, 928, 97, 872, 159, 929, 418, 664, 758, 328, 948, 669, 357, 372, 934, 225, 740, 768, 965, 21, 99, 917, 135, 631, 772, 884, 273, 61, 802, 397, 936, 103, 208, 400, 151, 831, 958, 570, 540, 890, 264, 359, 702, 806, 400, 816, 607, 197, 705, 871, 50, 52, 3, 430, 302, 595, 151, 870, 362, 768, 197, 330, 587, 453, 256, 956, 247, 803, 602, 301, 263, 584, 916, 55, 185, 656, 170, 25, 249, 660, 49, 123, 395, 469, 727, 419, 973, 566, 671, 305, 581, 226, 120, 190, 755, 105, 56, 153, 402, 23, 653, 848, 716, 31, 40, 954, 10, 146, 602, 858, 27, 337, 98, 744, 462, 380, 343, 883, 190, 525, 693, 109, 144, 321, 741, 103, 197, 145, 350, 101, 539, 715, 855, 723, 970, 421, 105, 568, 338, 833, 798, 639, 827, 887, 427, 958, 377, 762, 881, 587, 718, 473, 993, 400, 392, 337, 219, 789, 887, 899, 637, 498, 832, 982, 845, 619, 654, 346, 543, 812, 115, 340, 595, 985, 824, 807, 987, 220, 495, 747, 888, 942, 935, 993, 103, 728, 312, 452, 178, 776, 487, 718, 570, 775, 671, 731, 544, 61, 567, 310, 890, 683, 95, 934, 257, 489, 471, 912, 822, 744, 408, 834, 199, 186, 436, 247, 988, 177, 822, 56, 33, 349, 756, 11, 965, 636, 370, 782, 557, 101, 210, 925, 517, 985, 432, 924, 711, 461, 912, 433, 624, 330, 645, 300, 2, 168, 200, 949, 325, 703, 161, 38, 673, 871, 420, 689, 84, 283, 31, 480, 322, 603, 741, 737, 252, 878, 1, 513, 625, 696, 632, 759, 52, 430, 886, 69, 624, 848, 975, 530, 756, 158, 162, 963, 991, 805, 176, 368, 341, 622, 48, 461, 643, 648, 472, 70, 207, 168, 141, 702, 17, 910, 906, 894, 737, 822, 266, 584, 510, 666, 376, 455, 983, 83, 705, 102, 733, 234, 680, 134, 651, 616, 972, 952, 555, 695, 688, 335, 157, 314, 270, 60, 111, 611, 789, 491, 519, 777, 507, 737, 540, 650, 117, 632, 339, 30, 221, 731, 136, 266, 29, 442, 832, 82, 871, 804, 501, 759, 337, 53, 297, 648, 954, 264, 205, 857, 348, 142, 411, 311, 608, 781, 272, 965, 40, 217, 555, 728, 44, 297, 947, 475, 87, 979, 266, 390, 80, 66, 17, 402, 337, 571, 993, 488, 233, 263, 536, 21, 793, 732, 469, 366, 936, 971, 397, 149, 403, 84, 328, 605, 202, 682, 47, 961, 145, 685, 37, 526, 696, 918, 422, 369, 606, 779, 90, 735, 904, 637, 237, 177, 694, 934, 64, 789, 691, 394, 901, 255, 179, 16, 149, 743, 566, 84, 586, 816, 281, 57, 987, 566, 717, 238, 818, 175, 868, 482, 626, 491, 975, 589, 829, 235, 232, 627, 809, 682, 95, 385, 498, 678, 840, 560, 585, 840, 320, 430, 57, 153]

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| Método | Tiempo |
| Burbuja | 185.45328 milisegundos. |
| QuickSort | 54.72161 milisegundos. |
| ShellSort | 42.89752 milisegundos. |
| Merge | 42.54529 milisegundos. |

Prueba 21.

[855, 740, 788, 266, 693, 233, 399, 516, 324, 683, 962, 995, 987, 309, 661, 121, 641, 982, 492, 182, 428, 383, 23, 974, 987, 131, 441, 229, 994, 675, 16, 831, 908, 489, 692, 780, 678, 184, 564, 593, 170, 408, 108, 892, 431, 313, 55, 898, 546, 204, 951, 808, 422, 132, 689, 55, 3, 627, 942, 538, 897, 723, 617, 409, 204, 660, 766, 754, 755, 905, 996, 109, 551, 814, 380, 123, 238, 456, 824, 663, 44, 960, 923, 695, 564, 738, 453, 552, 284, 479, 17, 885, 240, 221, 801, 533, 934, 569, 459, 504, 195, 745, 883, 145, 94, 588, 943, 993, 970, 550, 365, 835, 711, 974, 898, 375, 911, 868, 197, 319, 112, 151, 552, 405, 885, 952, 243, 216, 559, 403, 527, 299, 513, 833, 910, 986, 60, 198, 478, 243, 318, 561, 164, 620, 84, 39, 328, 250, 279, 274, 65, 515, 832, 630, 101, 326, 906, 488, 463, 979, 819, 887, 127, 387, 766, 240, 249, 191, 731, 540, 668, 288, 559, 843, 683, 471, 137, 305, 670, 257, 603, 872, 662, 457, 363, 343, 503, 379, 897, 875, 542, 697, 626, 863, 641, 919, 14, 690, 67, 521, 796, 333, 13, 95, 654, 416, 127, 899, 117, 985, 445, 226, 635, 113, 292, 944, 328, 558, 97, 314, 810, 494, 105, 957, 43, 411, 891, 286, 664, 862, 323, 520, 480, 866, 330, 503, 935, 952, 640, 307, 353, 94, 592, 385, 176, 46, 934, 104, 413, 223, 448, 649, 891, 815, 371, 422, 608, 239, 101, 539, 234, 40, 532, 468, 426, 121, 303, 493, 830, 778, 972, 216, 11, 883, 883, 711, 421, 801, 386, 653, 60, 874, 18, 415, 934, 474, 971, 822, 94, 656, 454, 574, 192, 783, 270, 714, 850, 434, 555, 890, 286, 877, 390, 470, 12, 138, 367, 709, 536, 592, 417, 559, 919, 618, 47, 450, 284, 829, 998, 36, 885, 358, 170, 328, 914, 122, 967, 645, 380, 966, 960, 914, 439, 226, 110, 821, 521, 55, 741, 837, 535, 55, 450, 925, 619, 685, 561, 801, 610, 238, 512, 319, 89, 447, 591, 417, 722, 366, 424, 709, 855, 159, 707, 783, 846, 534, 1, 231, 33, 358, 319, 888, 993, 427, 265, 896, 299, 671, 646, 606, 562, 977, 39, 768, 987, 231, 101, 79, 828, 461, 951, 137, 829, 774, 296, 719, 648, 727, 598, 559, 889, 823, 36, 429, 822, 586, 28, 147, 630, 927, 784, 895, 255, 551, 961, 819, 910, 937, 852, 766, 978, 642, 48, 71, 765, 991, 439, 469, 933, 288, 821, 601, 136, 968, 822, 482, 202, 978, 812, 955, 103, 105, 245, 84, 627, 362, 279, 277, 256, 154, 365, 656, 120, 636, 696, 255, 934, 228, 378, 849, 570, 792, 100, 543, 443, 954, 514, 502, 393, 886, 668, 853, 493, 21, 239, 12, 16, 485, 848, 566, 474, 99, 903, 893, 12, 672, 823, 616, 268, 897, 733, 446, 372, 100, 133, 591, 759, 720, 155, 332]

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| Método | Tiempo |
| Burbuja | 87.81526 milisegundos. |
| QuickSort | 55.98399 milisegundos. |
| ShellSort | 46.74953 milisegundos. |
| Merge | 42.94596 milisegundos. |

Prueba 22

[1000, 948, 305, 471, 728, 603, 174, 901, 534, 491, 529, 960, 93, 327, 472, 665, 73, 677, 568, 17, 709, 566, 100, 792, 393, 416, 198, 848, 436, 974, 352, 472, 288, 900, 739, 764, 622, 844, 556, 603, 970, 29, 322, 330, 648, 175, 331, 102, 617, 802, 272, 355, 840, 716, 651, 258, 47, 725, 448, 925, 560, 198, 916, 76, 596, 833, 400, 89, 20, 980, 369, 788, 402, 604, 421, 31, 20, 54, 99, 333, 562, 690, 798, 810, 609, 531, 676, 552, 417, 489, 838, 956, 157, 496, 978, 523, 546, 723, 517, 664, 631, 68, 724, 717, 213, 764, 261, 41, 484, 563, 124, 424, 378, 847, 367, 125, 415, 464, 838, 49, 678, 439, 975, 419, 212, 334, 273, 694, 592, 181, 277, 644, 877, 147, 961, 194, 230, 22, 565, 850, 299, 398, 327, 659, 755, 667, 691, 291, 329, 358, 911, 166, 196, 355, 590, 409, 831, 737, 89, 457, 170, 338, 270, 615, 77, 694, 739, 356, 466, 21, 803, 838, 277, 309, 188, 297, 782, 483, 918, 148, 388, 585, 693, 240, 285, 328, 897, 931, 469, 50, 402, 542, 75, 799, 250, 602, 647, 728, 787, 464, 62, 246, 774, 232, 229, 482, 799, 501, 323, 512, 17, 230, 686, 496, 390, 485, 374, 247, 768, 244, 108, 740, 57, 917, 916, 337, 873, 584, 234, 389, 451, 980, 669, 798, 766, 196, 778, 946, 58, 432, 812, 242, 461, 38, 827, 912, 459, 479, 22, 798, 464, 484, 609, 275, 552, 591, 24, 992, 533, 786, 598, 14, 430, 448, 187, 192, 881, 863, 899, 771, 465, 831, 546, 324, 372, 12, 476, 102, 109, 896, 974, 297, 525, 376, 85, 818, 671, 33, 295, 446, 171, 572, 158, 935, 970, 848, 633, 0, 407, 295, 39, 11, 789, 339, 512, 644, 621, 838, 921, 152, 649, 287, 429, 694, 245, 221, 178, 488, 315, 196, 401, 764, 690, 3, 803, 832, 942, 377, 31, 15, 455, 77, 931, 763, 896, 446, 592, 323, 737, 757, 346, 157, 391, 456, 18, 836, 697, 466, 781, 423, 23, 853, 809, 731, 467, 819, 188, 289, 181, 818, 812, 543, 441, 337, 732, 529, 359, 285, 407, 213, 240, 732, 192, 998, 603, 683, 132, 462, 416, 643, 418, 609, 437, 263, 52, 895, 795, 517, 749, 143, 269, 531, 123, 874, 100, 340, 204, 922, 448, 627, 10, 211, 796, 6, 342, 318, 674, 108, 608, 481, 300, 770, 216, 525, 110, 430, 843, 925, 454, 728, 440, 773, 677, 108, 709, 86, 93, 611, 735, 400, 293, 913, 620, 926, 301, 518, 232, 328, 629, 226, 636, 19, 215, 857, 253, 243, 613, 869, 464, 712, 311, 312, 23, 380, 609, 900, 533, 449, 245, 286, 429, 556, 623, 330, 109, 531, 850, 383, 257, 472, 808, 824, 608, 114, 845, 62, 927, 589, 362, 577, 541, 434, 450, 103, 291, 177, 122, 399, 125, 373, 227, 780, 365, 651, 493, 719, 523, 45, 570, 618]

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| Método | Tiempo |
| Burbuja | 90.09329 milisegundos. |
| QuickSort | 54.78278 milisegundos. |
| ShellSort | 40.83543 milisegundos. |
| Merge | 42.50177 milisegundos. |

Prueba 23.

[275, 151, 661, 467, 465, 326, 942, 882, 93, 430, 123, 616, 18, 11, 786, 133, 18, 461, 880, 596, 963, 676, 96, 703, 649, 192, 341, 767, 563, 284, 451, 832, 272, 591, 205, 229, 428, 375, 943, 21, 985, 456, 0, 113, 398, 498, 880, 300, 905, 122, 365, 603, 6, 990, 742, 69, 824, 338, 469, 276, 694, 73, 590, 263, 854, 24, 878, 394, 510, 826, 343, 195, 541, 597, 87, 169, 151, 265, 465, 101, 412, 916, 458, 714, 451, 77, 954, 532, 205, 177, 159, 106, 412, 326, 282, 61, 112, 540, 296, 912, 9, 635, 939, 801, 765, 30, 127, 706, 572, 15, 6, 130, 745, 633, 425, 454, 16, 951, 205, 134, 790, 257, 58, 108, 72, 495, 153, 679, 30, 149, 600, 23, 128, 61, 44, 195, 928, 37, 969, 988, 195, 731, 729, 987, 673, 450, 889, 522, 274, 922, 788, 970, 766, 123, 473, 950, 36, 58, 245, 688, 976, 601, 165, 912, 956, 190, 968, 882, 303, 235, 934, 378, 80, 253, 742, 913, 259, 142, 832, 33, 442, 458, 747, 775, 492, 702, 777, 885, 326, 104, 530, 919, 772, 21, 535, 783, 766, 45, 789, 21, 588, 508, 354, 765, 413, 125, 838, 455, 878, 182, 219, 607, 794, 216, 14, 747, 284, 611, 531, 418, 717, 28, 366, 479, 966, 253, 777, 234, 457, 821, 141, 100, 49, 337, 548, 605, 40, 67, 933, 776, 260, 669, 157, 575, 760, 550, 421, 304, 778, 647, 940, 721, 348, 614, 608, 944, 385, 884, 83, 862, 387, 553, 110, 934, 82, 208, 545, 627, 621, 645, 531, 741, 717, 806, 820, 593, 453, 558, 36, 200, 926, 440, 171, 918, 261, 264, 901, 185, 726, 870, 623, 828, 572, 471, 683, 900, 362, 426, 230, 251, 496, 230, 94, 579, 473, 190, 278, 699, 670, 728, 257, 289, 636, 409, 33, 898, 214, 85, 444, 619, 342, 165, 890, 170, 247, 622, 792, 729, 524, 517, 549, 31, 338, 121, 4, 706, 971, 813, 903, 892, 877, 513, 927, 805, 880, 947, 823, 204, 613, 941, 212, 71, 786, 533, 978, 648, 196, 763, 690, 229, 649, 956, 452, 657, 112, 328, 573, 610, 832, 547, 898, 6, 321, 73, 281, 330, 653, 649, 283, 484, 287, 321, 305, 87, 351, 80, 587, 848, 817, 536, 961, 509, 531, 276, 999, 635, 739, 183, 65, 877, 159, 740, 363, 619, 84, 900, 600, 969, 848, 598, 432, 875, 599, 988, 673, 545, 775, 186, 822, 121, 136, 400, 600, 170, 479, 852, 847, 524, 375, 398, 90, 946, 890, 693, 337, 568, 106, 80, 506, 290, 698, 490, 868, 636, 54, 382, 394, 327, 466, 440, 614, 452, 972, 679, 180, 636, 153, 22, 56, 189, 172, 620, 28, 208, 513, 993, 433, 440, 450, 357, 463, 145, 657, 624, 986, 237, 652, 526, 240, 610, 963, 57, 949, 107, 409, 593, 209, 665, 589, 916, 672, 605, 312, 732, 500, 235, 709, 949, 943, 802]

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| Método | Tiempo |
| Burbuja | 85.04952 milisegundos. |
| QuickSort | 54.95725 milisegundos. |
| ShellSort | 42.05553 milisegundos. |
| Merge | 42.58716 milisegundos. |

Prueba 24.

[446, 53, 665, 98, 314, 833, 684, 592, 635, 986, 390, 799, 744, 714, 743, 898, 403, 943, 869, 750, 929, 497, 61, 572, 633, 779, 589, 864, 820, 29, 960, 202, 519, 898, 801, 89, 572, 835, 664, 521, 575, 113, 440, 405, 745, 485, 120, 874, 114, 589, 885, 567, 221, 942, 631, 143, 815, 614, 280, 775, 857, 611, 258, 832, 725, 803, 264, 795, 157, 857, 23, 470, 575, 85, 138, 95, 911, 150, 855, 289, 261, 144, 15, 507, 690, 824, 933, 852, 374, 86, 810, 823, 819, 405, 42, 257, 197, 341, 904, 145, 116, 424, 352, 605, 874, 394, 390, 933, 127, 612, 194, 425, 690, 496, 648, 789, 290, 129, 290, 762, 720, 452, 758, 570, 307, 983, 230, 43, 517, 805, 853, 19, 649, 462, 385, 752, 247, 977, 914, 275, 258, 572, 663, 390, 912, 66, 752, 56, 682, 92, 145, 649, 894, 11, 599, 985, 700, 410, 793, 159, 240, 209, 868, 186, 807, 936, 299, 601, 186, 380, 954, 301, 585, 998, 413, 77, 978, 417, 312, 175, 991, 573, 668, 252, 946, 475, 859, 548, 492, 881, 970, 231, 758, 425, 383, 89, 363, 71, 474, 65, 439, 631, 625, 875, 278, 968, 474, 716, 988, 323, 892, 637, 563, 369, 241, 661, 861, 267, 916, 875, 270, 180, 408, 667, 986, 654, 929, 335, 848, 980, 836, 530, 777, 418, 633, 634, 1000, 16, 213, 404, 822, 940, 182, 274, 918, 664, 703, 667, 543, 53, 39, 447, 317, 903, 962, 858, 460, 219, 355, 37, 754, 691, 208, 665, 326, 931, 855, 420, 760, 170, 598, 258, 68, 905, 825, 186, 320, 832, 295, 304, 120, 53, 870, 438, 889, 645, 1000, 565, 568, 723, 760, 322, 532, 960, 617, 953, 262, 995, 336, 19, 224, 84, 197, 26, 362, 338, 974, 157, 772, 177, 964, 282, 224, 633, 204, 472, 774, 659, 438, 219, 518, 684, 625, 432, 366, 235, 583, 649, 796, 336, 440, 429, 349, 886, 402, 647, 922, 139, 248, 826, 386, 395, 94, 709, 570, 323, 859, 681, 721, 269, 293, 855, 689, 471, 405, 771, 269, 792, 815, 607, 203, 738, 637, 696, 123, 193, 286, 366, 706, 699, 825, 764, 938, 63, 333, 79, 178, 736, 314, 348, 124, 569, 282, 976, 720, 290, 344, 234, 931, 560, 1000, 21, 467, 137, 827, 258, 328, 189, 266, 626, 60, 88, 548, 903, 797, 280, 949, 562, 774, 973, 653, 268, 936, 778, 14, 444, 425, 495, 970, 995, 80, 401, 471, 796, 722, 993, 8, 477, 695, 481, 822, 92, 786, 903, 623, 718, 404, 381, 549, 337, 21, 863, 882, 23, 337, 721, 6, 950, 981, 279, 747, 441, 864, 511, 655, 518, 832, 282, 244, 794, 468, 657, 623, 45, 236, 738, 568, 976, 954, 963, 46, 374, 200, 287, 839, 878, 948, 621, 150, 419, 375, 462, 34, 76, 40, 304, 283, 806, 251, 199, 916, 373, 590, 830, 106, 546, 618, 946, 952, 650]

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| Método | Tiempo |
| Burbuja | 90.85195 milisegundos. |
| QuickSort | 54.63540 milisegundos. |
| ShellSort | 41.54934 milisegundos. |
| Merge | 41.79402 milisegundos. |

Prueba 25.

[289, 952, 986, 713, 519, 707, 727, 797, 137, 43, 457, 231, 568, 661, 559, 297, 405, 228, 33, 571, 247, 372, 161, 447, 930, 565, 852, 150, 598, 641, 621, 522, 81, 100, 643, 531, 508, 288, 71, 680, 490, 566, 578, 848, 650, 365, 385, 405, 301, 538, 996, 548, 824, 400, 114, 669, 397, 237, 178, 426, 753, 13, 514, 91, 56, 178, 195, 68, 160, 634, 647, 659, 246, 189, 833, 127, 899, 692, 265, 28, 853, 959, 171, 606, 694, 39, 688, 945, 678, 434, 675, 474, 294, 719, 353, 399, 289, 42, 401, 644, 461, 382, 10, 672, 175, 649, 449, 385, 447, 895, 146, 34, 373, 892, 29, 256, 446, 242, 826, 379, 250, 318, 139, 34, 375, 857, 734, 711, 134, 231, 164, 649, 967, 373, 923, 370, 654, 31, 640, 747, 656, 663, 95, 243, 584, 799, 749, 253, 460, 154, 927, 986, 459, 84, 355, 175, 734, 858, 144, 196, 366, 45, 635, 436, 375, 778, 910, 170, 261, 387, 136, 845, 91, 939, 790, 960, 419, 190, 1, 715, 411, 454, 874, 113, 503, 105, 549, 251, 508, 956, 202, 954, 691, 473, 101, 913, 17, 171, 562, 809, 38, 518, 220, 811, 812, 899, 975, 135, 504, 421, 997, 349, 995, 781, 342, 283, 761, 961, 687, 137, 177, 975, 146, 171, 925, 444, 539, 82, 503, 880, 241, 758, 175, 414, 235, 975, 364, 417, 49, 690, 365, 415, 586, 977, 981, 660, 108, 28, 269, 747, 76, 582, 915, 345, 688, 18, 215, 561, 457, 185, 376, 311, 0, 584, 472, 542, 621, 636, 480, 54, 230, 584, 569, 999, 916, 546, 377, 218, 189, 865, 743, 404, 791, 351, 690, 285, 969, 170, 830, 532, 39, 558, 516, 670, 758, 168, 205, 828, 974, 854, 438, 890, 727, 762, 438, 191, 153, 69, 38, 183, 439, 259, 647, 934, 997, 336, 529, 467, 709, 781, 297, 651, 24, 598, 211, 839, 78, 461, 778, 807, 93, 881, 546, 537, 38, 760, 944, 837, 90, 855, 823, 929, 730, 566, 953, 965, 992, 388, 549, 942, 97, 431, 241, 799, 66, 913, 841, 958, 987, 495, 623, 492, 999, 692, 182, 22, 909, 475, 123, 967, 682, 226, 568, 770, 850, 677, 10, 739, 549, 774, 864, 959, 560, 722, 307, 354, 318, 335, 250, 93, 831, 353, 647, 163, 181, 704, 44, 836, 504, 30, 138, 19, 987, 224, 381, 334, 568, 632, 929, 813, 894, 117, 729, 988, 825, 260, 726, 554, 232, 901, 896, 257, 344, 986, 641, 728, 434, 237, 324, 818, 638, 269, 248, 240, 348, 191, 561, 892, 184, 955, 49, 761, 25, 174, 545, 402, 742, 327, 486, 377, 12, 963, 799, 860, 792, 430, 40, 576, 557, 529, 44, 754, 523, 882, 794, 527, 981, 573, 235, 500, 612, 440, 950, 453, 626, 495, 894, 588, 399, 140, 774, 908, 655, 696, 331, 511, 823, 320, 29, 682, 41, 168, 541, 713, 419, 756, 215, 351, 895, 975]

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| Método | Tiempo |
| Burbuja | 87.11490 milisegundos. |
| QuickSort | 53.86894 milisegundos. |
| ShellSort | 40.39904 milisegundos. |
| Merge | 41.32601 milisegundos. |

Prueba 26.

[628, 713, 967, 669, 935, 436, 877, 286, 522, 482, 336, 165, 972, 429, 985, 838, 176, 960, 138, 920, 605, 295, 706, 146, 766, 42, 222, 535, 782, 794, 184, 115, 877, 546, 303, 570, 459, 746, 158, 65, 522, 458, 654, 18, 199, 693, 958, 323, 528, 649, 128, 509, 302, 178, 882, 383, 930, 772, 294, 484, 488, 366, 710, 162, 597, 96, 988, 386, 696, 918, 11, 482, 581, 39, 691, 50, 569, 373, 256, 433, 628, 360, 150, 888, 680, 680, 171, 265, 656, 703, 434, 68, 997, 417, 784, 411, 786, 156, 4, 334, 576, 167, 190, 863, 191, 343, 201, 883, 651, 556, 712, 755, 288, 206, 361, 709, 551, 484, 795, 24, 554, 654, 621, 141, 83, 918, 884, 829, 329, 809, 219, 477, 347, 563, 420, 699, 801, 958, 178, 826, 838, 356, 963, 718, 974, 539, 826, 593, 327, 238, 612, 332, 162, 166, 592, 429, 847, 972, 745, 608, 256, 471, 192, 479, 776, 193, 53, 965, 600, 857, 393, 23, 973, 330, 273, 131, 591, 211, 591, 918, 631, 511, 37, 699, 600, 215, 397, 540, 133, 327, 729, 937, 737, 884, 576, 580, 407, 333, 164, 138, 541, 757, 336, 886, 584, 122, 454, 618, 619, 835, 235, 158, 117, 109, 278, 973, 433, 503, 499, 155, 429, 878, 840, 788, 105, 184, 744, 648, 561, 755, 817, 260, 475, 601, 675, 464, 335, 140, 799, 297, 982, 819, 922, 26, 401, 487, 587, 816, 831, 60, 872, 759, 732, 543, 768, 82, 296, 377, 305, 385, 936, 645, 147, 752, 237, 845, 679, 888, 762, 158, 40, 716, 102, 887, 366, 472, 149, 301, 751, 224, 900, 554, 950, 991, 38, 187, 238, 678, 494, 554, 612, 418, 866, 13, 303, 84, 135, 358, 498, 137, 547, 149, 344, 429, 977, 706, 623, 744, 592, 812, 868, 335, 591, 955, 508, 723, 68, 270, 355, 629, 438, 349, 287, 119, 619, 477, 594, 125, 564, 997, 962, 399, 725, 191, 390, 197, 476, 838, 669, 834, 475, 349, 242, 469, 693, 469, 171, 345, 609, 993, 879, 923, 75, 990, 222, 851, 965, 28, 275, 789, 319, 224, 229, 348, 432, 210, 616, 628, 855, 862, 829, 747, 184, 453, 74, 841, 768, 26, 90, 873, 152, 485, 418, 671, 44, 703, 34, 151, 735, 760, 125, 49, 617, 616, 427, 844, 179, 57, 283, 972, 622, 772, 924, 899, 479, 867, 75, 628, 847, 957, 622, 931, 576, 327, 781, 98, 997, 686, 209, 354, 849, 940, 436, 819, 516, 859, 539, 580, 615, 611, 487, 896, 407, 627, 892, 521, 200, 220, 728, 71, 783, 600, 952, 353, 823, 289, 415, 278, 486, 13, 173, 202, 52, 994, 383, 829, 57, 429, 703, 84, 517, 546, 357, 869, 370, 606, 901, 863, 146, 748, 627, 88, 684, 445, 835, 645, 276, 765, 283, 201, 445, 857, 98, 549, 164, 62, 95, 409, 928, 821, 208, 354, 236, 896, 393, 153, 338, 144, 95, 212]

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| Método | Tiempo |
| Burbuja | 176.73444 milisegundos. |
| QuickSort | 53.27572 milisegundos. |
| ShellSort | 40.18228 milisegundos. |
| Merge | 42.07318 milisegundos. |

Prueba 27.

[315, 635, 746, 770, 691, 409, 363, 835, 828, 687, 362, 704, 510, 574, 601, 180, 435, 186, 13, 334, 786, 960, 106, 726, 337, 775, 389, 955, 187, 212, 171, 309, 518, 582, 566, 728, 499, 573, 518, 748, 25, 63, 801, 205, 185, 911, 154, 804, 618, 909, 310, 243, 704, 642, 727, 431, 114, 729, 641, 935, 841, 825, 819, 624, 83, 659, 413, 869, 167, 279, 709, 807, 913, 283, 693, 537, 801, 104, 581, 261, 583, 467, 125, 921, 551, 473, 851, 662, 79, 218, 844, 842, 671, 308, 457, 63, 146, 719, 100, 381, 647, 795, 31, 84, 493, 233, 138, 651, 927, 94, 504, 615, 575, 370, 838, 901, 208, 269, 326, 841, 791, 607, 740, 388, 849, 981, 718, 572, 582, 227, 174, 568, 322, 28, 723, 668, 765, 685, 747, 58, 104, 406, 386, 699, 991, 579, 267, 537, 575, 99, 777, 418, 292, 892, 613, 540, 436, 389, 451, 422, 358, 43, 477, 776, 771, 637, 980, 912, 70, 428, 398, 94, 19, 722, 387, 602, 510, 292, 53, 383, 309, 177, 756, 214, 777, 121, 608, 959, 10, 336, 391, 486, 660, 512, 178, 670, 733, 49, 363, 541, 932, 91, 504, 389, 563, 944, 810, 718, 122, 603, 129, 864, 501, 583, 735, 305, 353, 471, 223, 938, 669, 332, 856, 615, 854, 366, 238, 789, 457, 413, 999, 142, 89, 324, 916, 339, 110, 117, 813, 744, 304, 19, 67, 964, 712, 60, 414, 725, 794, 499, 419, 507, 24, 252, 109, 668, 335, 712, 316, 833, 153, 257, 171, 374, 412, 366, 863, 188, 90, 859, 265, 494, 753, 32, 456, 567, 725, 82, 951, 840, 351, 228, 65, 644, 959, 473, 908, 227, 171, 975, 772, 670, 435, 585, 367, 768, 8, 410, 975, 392, 338, 7, 11, 87, 590, 719, 913, 733, 707, 865, 768, 46, 701, 901, 873, 103, 303, 393, 746, 265, 646, 624, 979, 379, 120, 711, 305, 506, 68, 186, 918, 459, 442, 216, 257, 206, 998, 198, 819, 536, 834, 134, 39, 998, 389, 318, 253, 724, 246, 327, 483, 607, 780, 168, 206, 764, 294, 200, 367, 202, 717, 89, 32, 545, 398, 558, 539, 618, 139, 674, 737, 620, 529, 945, 659, 331, 96, 12, 364, 813, 263, 748, 367, 156, 250, 531, 896, 894, 151, 371, 447, 500, 403, 321, 112, 554, 805, 563, 23, 350, 557, 440, 983, 611, 584, 428, 854, 742, 210, 899, 1000, 863, 945, 670, 751, 327, 853, 991, 958, 124, 741, 8, 585, 630, 191, 129, 322, 635, 646, 904, 475, 569, 100, 117, 701, 408, 147, 265, 288, 952, 50, 953, 662, 289, 883, 742, 525, 587, 863, 32, 181, 803, 251, 228, 326, 467, 58, 713, 880, 933, 572, 848, 154, 16, 715, 154, 52, 447, 762, 644, 927, 648, 163, 556, 167, 615, 88, 252, 693, 725, 394, 885, 519, 933, 327, 18, 157, 405, 281, 104, 285, 753, 310, 223, 797, 453, 34, 566, 231, 136]

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| Método | Tiempo |
| Burbuja | 87.62026 milisegundos. |
| QuickSort | 53.12875 milisegundos. |
| ShellSort | 40.05337 milisegundos. |
| Merge | 40.63345 milisegundos. |

Prueba 28.

[320, 931, 733, 660, 736, 499, 402, 820, 343, 545, 139, 999, 57, 929, 94, 913, 178, 400, 624, 945, 907, 39, 566, 592, 949, 561, 250, 250, 840, 396, 950, 78, 154, 754, 845, 728, 752, 338, 592, 357, 867, 564, 213, 740, 562, 703, 471, 950, 882, 701, 291, 546, 431, 818, 842, 253, 452, 603, 163, 654, 464, 286, 963, 330, 800, 979, 987, 316, 414, 192, 610, 9, 441, 688, 3, 299, 961, 104, 521, 967, 165, 423, 911, 785, 44, 318, 189, 274, 802, 607, 121, 578, 279, 46, 751, 553, 345, 748, 902, 128, 586, 268, 114, 487, 926, 574, 890, 604, 236, 654, 113, 737, 295, 193, 949, 392, 817, 957, 473, 508, 696, 122, 610, 501, 916, 591, 832, 276, 965, 767, 749, 386, 754, 743, 843, 36, 133, 43, 291, 720, 967, 983, 261, 753, 473, 243, 545, 428, 1000, 426, 46, 566, 870, 929, 301, 662, 915, 860, 200, 145, 700, 684, 85, 55, 370, 348, 274, 227, 247, 36, 127, 999, 682, 997, 990, 712, 462, 486, 948, 751, 1, 203, 938, 947, 991, 157, 542, 186, 887, 420, 417, 973, 735, 456, 248, 233, 365, 57, 247, 664, 839, 16, 316, 630, 105, 212, 664, 624, 422, 432, 126, 398, 318, 878, 839, 265, 865, 777, 338, 870, 219, 489, 112, 560, 234, 375, 92, 403, 346, 526, 806, 888, 549, 722, 563, 240, 635, 855, 768, 438, 374, 929, 30, 269, 472, 54, 312, 295, 718, 482, 985, 366, 801, 112, 244, 194, 964, 442, 93, 14, 365, 899, 965, 416, 923, 789, 465, 221, 967, 553, 495, 311, 161, 475, 516, 830, 337, 487, 651, 526, 520, 551, 515, 497, 874, 748, 69, 755, 241, 698, 966, 6, 354, 105, 210, 441, 156, 319, 559, 449, 607, 297, 791, 612, 553, 394, 426, 650, 199, 387, 611, 474, 61, 509, 443, 603, 903, 857, 342, 413, 116, 565, 512, 913, 364, 471, 252, 754, 350, 473, 805, 857, 614, 229, 107, 294, 442, 43, 218, 565, 279, 396, 373, 762, 975, 139, 420, 417, 497, 700, 284, 989, 12, 306, 132, 498, 787, 439, 838, 395, 956, 998, 621, 170, 296, 210, 848, 332, 288, 614, 225, 309, 80, 126, 592, 768, 291, 51, 588, 221, 663, 211, 859, 446, 491, 469, 684, 385, 21, 22, 23, 950, 320, 165, 467, 555, 391, 261, 539, 522, 738, 511, 183, 620, 887, 841, 433, 548, 822, 457, 84, 128, 3, 45, 49, 85, 196, 554, 317, 853, 934, 406, 711, 362, 462, 170, 231, 788, 744, 950, 979, 901, 73, 469, 951, 807, 510, 890, 823, 954, 249, 198, 647, 69, 396, 487, 168, 711, 259, 978, 954, 254, 412, 462, 687, 394, 367, 212, 859, 571, 143, 810, 201, 277, 479, 774, 469, 512, 991, 601, 986, 270, 494, 340, 202, 124, 710, 495, 533, 584, 478, 287, 423, 496, 287, 82, 275, 316, 688, 124, 316, 51, 130, 33, 847, 117, 453, 182, 104, 561]

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| Método | Tiempo |
| Burbuja | 86.37882 milisegundos. |
| QuickSort | 52.75969 milisegundos. |
| ShellSort | 40.85226 milisegundos. |
| Merge | 40.53780 milisegundos. |

Prueba 29.

[973, 608, 919, 764, 500, 270, 169, 789, 483, 276, 16, 606, 545, 527, 895, 852, 377, 400, 191, 999, 255, 339, 542, 399, 978, 31, 193, 499, 568, 997, 905, 523, 146, 750, 330, 842, 230, 432, 50, 43, 616, 539, 149, 785, 970, 82, 308, 803, 140, 257, 427, 139, 505, 438, 127, 171, 178, 285, 606, 884, 829, 846, 633, 630, 131, 181, 10, 188, 69, 60, 702, 321, 841, 413, 837, 297, 474, 50, 400, 774, 333, 583, 783, 879, 768, 893, 390, 796, 106, 544, 375, 906, 12, 835, 659, 67, 26, 858, 175, 51, 548, 173, 878, 284, 674, 227, 528, 433, 893, 970, 8, 165, 76, 974, 699, 908, 919, 983, 837, 40, 48, 488, 119, 652, 110, 487, 723, 966, 8, 838, 42, 517, 873, 827, 407, 347, 258, 799, 334, 244, 758, 771, 154, 969, 251, 135, 743, 333, 856, 395, 56, 450, 916, 725, 555, 588, 963, 219, 409, 696, 992, 878, 321, 695, 935, 496, 930, 885, 21, 409, 420, 263, 804, 410, 290, 0, 925, 536, 270, 573, 527, 448, 644, 747, 351, 888, 627, 733, 180, 403, 850, 449, 75, 497, 864, 552, 57, 263, 201, 996, 129, 509, 406, 446, 609, 815, 877, 167, 135, 862, 315, 954, 423, 919, 945, 418, 165, 640, 806, 635, 239, 677, 771, 708, 527, 869, 60, 670, 748, 272, 155, 542, 10, 251, 792, 135, 11, 745, 253, 306, 422, 649, 513, 136, 335, 742, 357, 56, 936, 866, 582, 505, 804, 517, 210, 878, 645, 982, 874, 804, 567, 151, 393, 562, 724, 413, 243, 318, 878, 604, 533, 937, 785, 834, 219, 911, 784, 952, 809, 163, 765, 748, 534, 460, 212, 73, 809, 786, 943, 650, 266, 457, 540, 226, 346, 714, 916, 90, 962, 414, 781, 529, 663, 85, 224, 138, 36, 820, 137, 342, 650, 153, 271, 176, 52, 397, 397, 592, 283, 860, 11, 776, 472, 23, 653, 955, 738, 56, 889, 871, 568, 805, 637, 47, 703, 808, 661, 46, 307, 230, 649, 800, 546, 707, 551, 884, 139, 392, 230, 543, 130, 459, 49, 761, 919, 916, 361, 100, 265, 500, 646, 387, 886, 417, 584, 770, 843, 14, 73, 936, 427, 601, 568, 91, 110, 861, 370, 101, 597, 383, 802, 803, 936, 963, 369, 190, 302, 738, 990, 405, 882, 734, 368, 954, 978, 819, 151, 703, 45, 875, 208, 577, 754, 865, 937, 312, 284, 341, 923, 741, 259, 20, 853, 264, 497, 985, 241, 199, 978, 679, 433, 185, 595, 362, 736, 249, 888, 725, 330, 750, 333, 509, 693, 979, 865, 0, 966, 454, 390, 975, 220, 396, 56, 778, 312, 384, 107, 591, 354, 3, 416, 1, 458, 411, 418, 875, 227, 989, 846, 809, 948, 771, 239, 48, 210, 167, 610, 93, 31, 142, 808, 824, 494, 179, 117, 843, 678, 121, 425, 487, 505, 579, 667, 484, 769, 778, 757, 677, 504, 722, 190, 314, 848, 926, 739, 904, 395, 688, 819, 426]

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| Método | Tiempo |
| Burbuja | 86.47529 milisegundos. |
| QuickSort | 55.88505 milisegundos. |
| ShellSort | 40.29066 milisegundos. |
| Merge | 40.53985 milisegundos. |

Prueba 30.

[246, 466, 923, 98, 107, 620, 488, 651, 588, 120, 13, 991, 757, 893, 943, 43, 586, 846, 555, 832, 707, 989, 902, 512, 491, 85, 853, 535, 812, 453, 465, 964, 585, 74, 814, 55, 407, 844, 503, 868, 429, 983, 715, 64, 120, 395, 490, 426, 283, 25, 577, 464, 622, 481, 665, 289, 470, 725, 448, 257, 183, 574, 250, 643, 325, 830, 580, 395, 757, 243, 666, 231, 600, 694, 36, 679, 716, 887, 794, 557, 892, 817, 178, 798, 873, 990, 365, 279, 730, 743, 742, 919, 450, 909, 411, 956, 327, 55, 27, 206, 657, 711, 111, 621, 759, 804, 42, 665, 110, 797, 693, 919, 500, 16, 16, 441, 523, 954, 156, 287, 586, 958, 127, 578, 267, 314, 432, 416, 244, 187, 388, 850, 290, 682, 708, 920, 235, 494, 436, 756, 890, 665, 796, 617, 105, 140, 246, 244, 738, 118, 654, 10, 242, 283, 819, 394, 656, 71, 946, 740, 342, 59, 851, 955, 308, 683, 808, 814, 748, 451, 839, 525, 777, 665, 157, 712, 217, 658, 363, 962, 158, 430, 845, 477, 31, 375, 53, 517, 506, 622, 460, 906, 413, 254, 616, 341, 469, 609, 270, 330, 936, 966, 955, 528, 136, 861, 540, 111, 974, 824, 627, 1000, 157, 138, 936, 897, 88, 171, 545, 605, 826, 708, 245, 24, 620, 483, 419, 808, 907, 406, 532, 505, 606, 460, 74, 433, 831, 502, 255, 636, 936, 572, 622, 320, 781, 887, 964, 415, 777, 213, 158, 996, 951, 549, 447, 409, 273, 534, 599, 168, 27, 257, 188, 670, 193, 385, 774, 578, 521, 795, 913, 561, 993, 987, 248, 82, 5, 51, 117, 341, 220, 392, 324, 513, 597, 596, 965, 629, 7, 224, 911, 80, 704, 151, 127, 143, 696, 638, 415, 429, 402, 112, 424, 359, 250, 678, 399, 230, 650, 896, 371, 957, 764, 630, 381, 781, 955, 6, 947, 914, 704, 263, 584, 243, 760, 58, 938, 914, 541, 79, 815, 273, 953, 56, 925, 520, 580, 882, 18, 2, 637, 53, 12, 910, 822, 539, 164, 246, 389, 726, 368, 30, 875, 268, 430, 539, 781, 500, 642, 265, 339, 893, 367, 830, 527, 833, 830, 282, 525, 997, 906, 809, 817, 727, 525, 766, 92, 869, 700, 224, 535, 830, 708, 489, 220, 411, 790, 649, 394, 827, 391, 704, 59, 799, 530, 234, 161, 466, 85, 224, 727, 38, 493, 943, 88, 101, 685, 450, 405, 341, 119, 255, 845, 545, 85, 795, 926, 835, 912, 547, 487, 555, 57, 110, 422, 542, 705, 832, 253, 325, 374, 99, 525, 20, 718, 410, 341, 298, 197, 494, 423, 397, 903, 137, 631, 364, 516, 162, 260, 370, 445, 814, 230, 653, 561, 699, 940, 606, 37, 534, 503, 881, 719, 880, 346, 317, 848, 193, 783, 13, 1, 813, 111, 258, 118, 209, 392, 150, 356, 662, 714, 502, 808, 592, 315, 971, 987, 477, 465, 961, 488, 510, 639, 100, 482, 914, 465, 631, 284, 254]

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| Método | Tiempo |
| Burbuja | 84.62216 milisegundos. |
| QuickSort | 52.16113 milisegundos. |
| ShellSort | 41.09488 milisegundos. |
| Merge | 40.96557 milisegundos. |

Promedio de eficiencia.

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| Método | Tiempo |
| Burbuja | 93.55503 milisegundos |
| QuickSort | 52.80721 milisegundos |
| ShellSort | 40.31239 milisegundos |
| Merge | 43.71273 milisegundos |

Después de llevar a cabo 30 pruebas con los métodos de ordenamiento, se puede ver que en esta ocasión, el método mas eficaz para ordenar los arreglos fue el de ShellSort.