

When n is small, the process of program running affects the algorithm running time. But as n increase, the impact is getting smaller and smaller. Obviously, the time complexity of these three algorithms is O(n). So, the running time of these three algorithms are closer for higher values of n.

#n				
	Panddom Solost	Count Cort	Bucket Cart	
10	Randdom_Select 45755.0	Count_Sort 3453.0	Bucket_Sort 625809.0	
20	21176.0	2177.0		
30	13856.0	2288.0	40455.0 41166.0	
40	24875.0	2691.0	45745.0	
50	15592.0	2818.0	38079.0	
60	15582.0	2877.0	44437.0	
70				
	5078.0	2997.0	46218.0	
80	12651.0	3305.0	81442.0	
90	10561.0	4546.0	38102.0	
100	10493.0	3718.0	38284.0	
110	10286.0	3846.0	38079.0	
120	10626.0	9258.0	64892.0	
130	13326.0	4895.0	42996.0	
140	17892.0	6514.0	43594.0	
150	6805.0	7098.0	45747.0	
160	9402.0	4904.0	39314.0	
170	11869.0	5004.0	41377.0	
180	10978.0	6138.0	30351.0	
190	3500049.0	7612.0	230977.0	
200	31515.0	5369.0	77591.0	
210	54997.0	5485.0	41081.0	
220	19617.0	10240.0	51250.0	
230	21148.0	18303.0	84712.0	
240	23369.0	15793.0	43886.0	
250	13748.0	12222.0	44861.0	
260	26907.0	18236.0	37697.0	
270	11021.0	10036.0	26762.0	
280	7283.0	8299.0	20215.0	
290	6877.0	8331.0	18630.0	
300	9845.0	6922.0	29188.0	
310	8199.0	6673.0	19562.0	
320	6621.0	8010.0	18049.0	
330	13336.0	12137.0	32067.0	
340	13595.0	9649.0	32865.0	
350	11792.0	14701.0	60589.0	
360	7193.0	10485.0	18521.0	
370	5863.0	7523.0	15813.0	
380	7956.0	8309.0	25933.0	
390	5744.0	8101.0	16856.0	
400	6363.0	11027.0	24278.0	
410	11440.0	8312.0	14603.0	
420	9797.0	8509.0	17445.0	
430	5214.0	11239.0	44239.0	
440	10030.0	8943.0	11619.0	
450	10033.0	13210.0	12845.0	
460	15759.0	12029.0	23057.0	
470	24516.0	12521.0	21292.0	
480 490	4575.0	9473.0	13921.0	
500	7885.0	12265.0	12556.0	
510	8426.0 6394.0	9846.0 12756.0	10805.0 12542.0	
520	8445.0	10974.0	14738.0	
530	6904.0	12854.0	9978.0	
540	6359.0	10387.0	11774.0	
550	6232.0	13120.0	11028.0	
560	7914.0	11613.0	12521.0	
570	6600.0	13076.0	9861.0	
580	9830.0	13803.0	10104.0	
590	6392.0	11299.0	11369.0	
600	8801.0	14112.0	10832.0	
610	6464.0	14027.0	16991.0	
620				
	10214.0	11936.0	12547.0	
630	8128.0	15204.0	9428.0	
640	8128.0 7513.0	15204.0 23195.0	9428.0 10992.0	
640 650	8128.0 7513.0 12280.0	15204.0 23195.0 13135.0	9428.0 10992.0 11096.0	
640 650 660	8128.0 7513.0 12280.0 6464.0	15204.0 23195.0 13135.0 14928.0	9428.0 10992.0 11096.0 8949.0	
640 650 660 670	8128.0 7513.0 12280.0 6464.0 6985.0	15204.0 23195.0 13135.0 14928.0 15006.0	9428.0 10992.0 11096.0 8849.0 9115.0	
640 650 660 670 680	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0	
640 650 660 670 680 690	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0	9428.0 10992.0 11896.0 8949.0 9115.0 9111.0	
640 650 660 670 680 690 700	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0	
640 650 660 670 680 690 700 710	8128.0 7513.0 12280.0 6464.0 6885.0 4173.0 10895.0 7326.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13065.0	9428.0 10992.0 11096.0 8949.0 9115.0 911.0 9950.0 10471.0	
640 650 660 670 680 690 700 710	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7303.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13055.0 13816.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0	
640 650 660 670 680 690 700 710 720 730	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6448.0 7303.0 3786.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13055.0 13816.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0	
640 650 660 670 680 690 700 710 720 730 740	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6048.0 7303.0 3786.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0	
640 650 660 670 680 690 700 710 720 730 740 750	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6048.0 7303.0 3786.0 12960.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13055.0 13816.0 16014.0 15944.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0	
640 650 660 670 680 690 700 710 720 730 740 750 760	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0	
640 650 660 670 680 690 710 720 730 740 750 760	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6048.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13865.0 16014.0 15944.0 16352.0 16811.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0	
640 650 660 670 680 690 700 710 720 730 740 750 760 770	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6048.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17493.0	9428.0 10992.0 11996.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8888.0 9118.0 8915.0	
640 650 660 670 680 690 710 720 730 740 750 760 770 780	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6048.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17403.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0	
640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 800	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6048.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17493.0 16763.0	9428.0 10992.0 11996.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0	
640 650 660 670 680 690 710 720 730 740 750 760 770 780 800 810	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6048.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16756.0 17403.0 17048.0 20867.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 99530.0 10441.0	
640 650 660 670 680 690 700 710 720 730 740 750 760 770 800 810 820	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6648.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0	
640 650 670 680 690 710 720 730 740 750 770 780 800 810 820 830	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 50666.0 3719.0 3652.0 13264.0 4226.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17493.0 16763.0 17048.0 20867.0 17849.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0	
640 650 660 670 680 690 700 710 720 730 750 760 770 780 790 810 820 830 840	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3552.0 13264.0 4226.0 4359.0 3434.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9111.0 10111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0	
640 650 660 670 680 690 710 720 730 740 750 760 770 800 810 820 830 840 850	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3585.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16766.0 17493.0 16763.0 17048.0 20867.0 17849.0 16562.0 17849.0	9428.0 10992.0 11996.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10362.0 9148.0	
640 650 660 670 680 690 710 710 720 730 740 750 770 780 810 820 830 840 850	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6048.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3385.0 3385.0	15204.0 23195.0 13135.0 14928.0 15342.0 15342.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16756.0 17403.0 17048.0 20867.0 17849.0 16562.0 17849.0 16562.0 17702.0 18283.0 18590.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0	
640 650 660 670 680 690 710 720 730 740 750 770 800 810 820 830 840 850 870	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6648.0 7303.0 3786.0 12960.0 77914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3334.0 3385.0 3339.0 5711.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 160114.0 15944.0 16352.0 16811.0 16756.0 17493.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0	9428.0 10992.0 11896.0 8949.0 9115.0 9111.0 9111.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9955.0	
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640 650 670 680 690 710 720 7130 740 750 780 780 810 810 820 830 840 850 860 870 880 880 880 880 880 880 880 880	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3585.0 3239.0 5711.0 100880.0 3461.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 160114.0 15944.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18286.0 19074.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9150.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9918.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9055.0	
640 650 660 670 680 690 700 710 720 730 750 750 760 780 810 820 830 840 850 860 870 880 880	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7383.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3334.0 3585.0 3239.0 5711.0 10080.0 3461.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16766.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18286.0 19074.0 19245.0 19213.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15544.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0	
640 650 670 680 690 710 720 730 740 750 770 780 800 810 820 830 840 850 870 880 870 880 870 880 870 880 870 880 870 880 870 880 88	8128.0 7513.0 12280.0 6464.0 6885.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3385.0 3329.0 5711.0 10088.0 3461.0 8676.0 8329.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 15944.0 16352.0 16811.0 16763.0 17463.0 16763.0 17483.0 16562.0 17702.0 18283.0 18286.0 19074.0 19245.0 19245.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 99411.0 9056.0 11159.0 8716.0 29018.0	
640 650 660 670 680 770 770 770 770 770 770 770 780 800 810 820 840 850 860 870 880 890 910	8128.0 7513.0 12280.0 6464.0 6585.0 4173.0 18895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3452.0 13264.0 4226.0 4359.0 3339.0 5711.0 18088.0 3361.0 8676.0 8839.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16765.0 17493.0 16763.0 17048.0 20867.0 17849.0 18283.0 18283.0 18290.0 18293.0 18290.0 18293.0	9428.0 10992.0 11996.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9918.0 10441.0 15844.0 10362.0 9148.0 9441.0 9056.0 1159.0 8716.0 29018.0 1159.0	
640 650 660 670 680 770 770 730 740 750 760 770 800 810 810 820 830 840 850 880 890 990 9930	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6048.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3343.0 3383.0 3379.0 3383.0 339.0 5711.0 18080.0 3461.0 8676.0 8329.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18286.0 19074.0 19245.0 19213.0 21207.0 19585.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9150.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 1159.0 8716.0 8716.0	
640 650 670 680 690 710 710 730 750 760 780 780 880 810 820 830 840 850 860 870 880 910 910 920 930 940	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7314.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10080.0 3461.0 8676.0 8329.0 34897.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 16352.0 16811.0 16756.0 17493.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18286.0 19074.0 19245.0 19213.0 21207.0 19365.0 19346.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8888.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 1159.0 8716.0	
640 650 660 670 680 770 770 730 740 770 780 800 810 820 830 840 850 870 910 920 910 930 940	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18895.0 7326.0 6648.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 33434.0 3585.0 3239.0 5711.0 10080.0 3807.0 2875.0	15204.0 23195.0 13135.0 14928.0 15342.0 15342.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16756.0 17443.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18286.0 19074.0 19245.0 19213.0 21207.0 19505.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 99410.0 9055.0 11159.0 8716.0 29018.0 11859.0	
640 650 670 680 670 700 710 720 730 760 770 780 810 810 820 830 840 850 850 870 900 910 920 930 940 950	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7303.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10088.0 3434.0 3857.0 23719.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 160114.0 16352.0 16811.0 16756.0 17493.0 16763.0 17048.0 20867.0 17782.0 18283.0 18500.0 18283.0 18500.0 18296.0 19074.0 19213.0 21207.0 19317.0 20585.0 20865.0	9428.0 10992.0 11996.0 8949.0 9115.0 9111.0 9111.0 10111.1.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11852.0 10448.0 19458.0 11852.0 10448.0 11852.0 10448.0 8776.0 8799.0 9776.0	
640 650 660 670 680 690 710 730 730 740 750 760 770 800 810 820 830 840 850 850 890 910 920 930 950 950 970	8128.0 7513.0 12280.0 6464.0 6595.0 4173.0 18995.0 7326.0 6648.0 7383.0 3786.0 12960.0 7914.0 9992.0 2483.0 50666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3334.0 3585.0 3339.0 5711.0 10080.0 3461.0 8676.0 8329.0 3897.0 2975.0 4019.0 2383.0 2581.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 16932.0 16811.0 16756.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18286.0 19074.0 19245.0 19213.0 21207.0 19846.0 19317.0 20585.0 20024.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 99530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 1159.0 8716.0 29018.0 1159.0	
640 650 660 670 680 690 710 720 730 750 770 780 810 820 830 810 820 830 840 850 870 900 910 920 930 940 950 970 970	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3585.0 3239.0 5711.0 100880.0 3661.0 8676.0 8329.0 3897.0 2975.0 4019.0 2383.0 2283.0 2283.0 2283.0 2283.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 160114.0 15944.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18283.0 18500.0 19213.0 21207.0 19245.0 19213.0 21207.0 19386.0 19317.0 20585.0 20024.0 20020.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9111.0 101111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9055.0 11159.0 8716.0 88716.0 88716.0 88716.0 99055.0	
640 650 660 670 680 700 710 720 730 740 750 800 810 820 830 840 850 850 910 910 920 930 950 950 950 950 950	8128.0 7513.0 12280.0 6464.0 6585.0 4173.0 18895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10080.0 3461.0 8676.0 8329.0 3397.0 2975.0 4019.0 2383.0 3236.0 2251.0 14227.0 1514.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 15944.0 16352.0 16811.0 16766.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18283.0 18500.0 18296.0 19274.0 19245.0 19213.0 21207.0 19346.0 19317.0 20585.0 20024.0 20027.0 20335.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9224.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11852.0 10444.0 10862.0 9148.0 9456.0	
640 650 660 670 680 690 710 720 730 750 770 780 810 820 830 810 820 830 840 850 870 900 910 920 930 940 950 970 970	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3585.0 3239.0 5711.0 100880.0 3661.0 8676.0 8329.0 3897.0 2975.0 4019.0 2383.0 2283.0 2283.0 2283.0 2283.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 160114.0 15944.0 16352.0 16811.0 16756.0 17403.0 16763.0 17048.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18283.0 18500.0 19213.0 21207.0 19245.0 19213.0 21207.0 19386.0 19317.0 20585.0 20024.0 20020.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9111.0 101111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9055.0 11159.0 8716.0 88716.0 88716.0 88716.0 99055.0	
640 650 660 670 680 7700 7700 7700 770 780 780 780 800 810 820 830 840 850 850 850 910 920 930 940 950 960 970 980 990 990	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10080.0 3461.0 8879.0 3491.0 3461.0 8771.0 10080.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 13752.0 13065.0 13816.0 16014.0 16352.0 16811.0 16766.0 17493.0 16766.0 17848.0 20867.0 17849.0 16562.0 17702.0 18283.0 18500.0 18283.0 18500.0 18293.0 19213.0 21207.0 19245.0 19317.0 20585.0 200224.0 20020.0 20671.0 20335.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10584.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11859.0 8716.0 29018.0 11859.0 8748.0 9776.0 7483.0 11339.0 9213.0	
640 650 660 670 680 770 730 730 740 750 760 770 800 810 810 820 830 840 850 990 991 993 993 990 997 990 990 970	8128.0 7513.0 12280.0 6464.0 6885.0 4173.0 1895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3434.0 3385.0 3329.0 5711.0 10088.0 3461.0 8676.0 8329.0 3397.0 2975.0 4019.0 2383.0 2326.0 21514.0 3326.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 15944.0 16352.0 16811.0 16763.0 17403.0 16763.0 17403.0 16562.0 17702.0 18263.0 18266.0 19074.0 19213.0 12207.0 19245.0 19213.0 21207.0 19317.0 20655.0 20024.0 20027.0 200355.0 20434.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9111.0 101111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 8915.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11852.0 10448.0 11852.0 10448.0	
640 650 660 670 680 7700 7700 7720 7740 7750 7780 7780 7780 788 810 820 840 850 850 850 910 920 930 940 950 970 970 980 970 980 970 970 970 970 970 970 970 970 970 97	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 10895.0 7326.0 6648.0 7393.0 3786.0 12960.0 7314.0 9992.0 2483.0 5066.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10080.0 3434.0 3585.0 3239.0 5711.0 10080.0 3461.0 8676.0 8329.0 3339.0 5711.0 10080.0 3461.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 16352.0 16811.0 16756.0 17493.0 16763.0 177048.0 20867.0 177849.0 16562.0 17702.0 18283.0 18500.0 18283.0 18500.0 19213.0 21207.0 19345.0 19317.0 20585.0 20024.0 20020.0 20671.0 20335.0 20434.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 915.0 9111.1.0 11111.0 11111.0 110309.0 8410.0 9294.0 8736.0 8845.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9055.0 11159.0 8716.0 29018.0 1159.0 8716.0 29018.0 11852.0 10448.0 8467.0 87976.0 8792.0 9776.0 7483.0 11339.0 9213.0 15951.0 7931.0	
640 650 660 670 680 770 770 770 770 780 870 810 820 830 840 850 870 910 920 940 950 950 970 980 970 980 970 980 970 980 970 980 970 980 970 980 970 970 970 970 970 970 970 970 970 97	8128.0 7513.0 12280.0 6464.0 65985.0 4173.0 18995.0 7326.0 6648.0 7383.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3334.0 3585.0 3329.0 5711.0 10080.0 3461.0 8676.0 8329.0 3461.0 8676.0 8329.0 3129.0 31264.0 4226.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4329.0 33236.0 33236.0 26551.0 14227.0 1514.0 3326.0 lucky_num 2	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 15944.0 16352.0 16811.0 16763.0 17403.0 16763.0 17403.0 16562.0 17403.0 16562.0 17702.0 18283.0 18286.0 19213.0 18286.0 19213.0 19245.0 19213.0 21207.0 19585.0 19317.0 20585.0 20024.0 20071.0 20335.0 20434.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15544.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11459.0 8716.0 0 9744.0 10362.0 9148.0 9441.0 9056.0 1139.0 8716.0 11852.0 10448.0 8467.0 8792.0 9776.0 7483.0 11399.0 9213.0 11399.0	
640 650 670 680 670 710 710 720 730 740 750 780 810 820 830 810 820 830 840 850 900 910 920 940 950 960 970 980 990 980 990 980 990 1000	8128.0 7513.0 12280.0 6464.0 6985.0 4173.0 18995.0 7326.0 6648.0 7303.0 3786.0 12960.0 77914.0 9992.0 2483.0 50666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3339.0 5711.0 10080.0 3897.0 22975.0 4819.0 3329.0 3329.0 3329.0 3329.0 3329.0 3434.0 3585.0 3329.0 3126.0 0 12651.0 14227.0 1514.0 3326.0 0 14227.0 1514.0 3326.0	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 16352.0 16811.0 16756.0 17493.0 16763.0 17702.0 18283.0 18500.0 18283.0 18500.0 18283.0 18500.0 19213.0 21207.0 19245.0 19213.0 21207.0 19317.0 20585.0 20024.0 20020.0 20585.0 20024.0 20024.0 200335.0 20434.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9111.0 10111.1.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15844.0 10968.0 13024.0 10362.0 9148.0 9441.0 9055.0 11159.0 8716.0 29018.0 11852.0 10448.0 11852.0 10448.0 11852.0 10448.0 11852.0 10448.0 8467.0 87976.0 87918.0 91399.0 9776.0 7483.0 11339.0 9213.0 15951.0 7931.0	
640 650 660 670 680 770 770 770 770 780 870 810 820 830 840 850 870 910 920 940 950 950 970 980 970 980 970 980 970 980 970 980 970 980 970 980 970 970 970 970 970 970 970 970 970 97	8128.0 7513.0 12280.0 6464.0 65985.0 4173.0 18995.0 7326.0 6648.0 7383.0 3786.0 12960.0 7914.0 9992.0 2483.0 5666.0 3719.0 3652.0 13264.0 4226.0 4359.0 3334.0 3585.0 3329.0 5711.0 10080.0 3461.0 8676.0 8329.0 3461.0 8676.0 8329.0 3129.0 31264.0 4226.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4226.0 431264.0 4329.0 33236.0 33236.0 26551.0 14227.0 1514.0 3326.0 lucky_num 2	15204.0 23195.0 13135.0 14928.0 15006.0 15342.0 15745.0 13752.0 13816.0 16014.0 15944.0 16352.0 16811.0 16763.0 17403.0 16763.0 17403.0 16562.0 17403.0 16562.0 17702.0 18283.0 18286.0 19213.0 18286.0 19213.0 19245.0 19213.0 21207.0 19585.0 19317.0 20585.0 20024.0 20071.0 20335.0 20434.0	9428.0 10992.0 11096.0 8949.0 9115.0 9111.0 9950.0 10471.0 11111.0 10309.0 8410.0 9294.0 8736.0 8886.0 9118.0 9530.0 10441.0 15544.0 10362.0 9148.0 9441.0 9056.0 11159.0 8716.0 29018.0 11459.0 8716.0 0 9744.0 10362.0 9148.0 9441.0 9056.0 1139.0 8716.0 11852.0 10448.0 8467.0 8792.0 9776.0 7483.0 11399.0 9213.0 11399.0	

#n	Randdom_Select	Count Sort	Bucket Sort
10	45755.0	3453.0	625809.0
20	21176.0	2177.0	40455.0
30	13856.0	2288.0	41166.0
40	24875.0	2691.0	45745.0
50	15592.0	2818.0	38079.0
60	15582.0	2877.0	44437.0
70	5078.0	2997.0	46218.0
80	12651.0	3305.0	81442.0
90	10561.0	4546.0	38102.0
100	10493.0	3718.0	38284.0
110	10286.0	3846.0	38079.0
120	10626.0	9258.0	64892.0
130	13326.0	4895.0	42996.0
140	17892.0	6514.0	43594.0
150	6805.0	7098.0	45747.0
160	9402.0	4904.0	39314.0
170	11869.0	5004.0	41377.0
180	10978.0	6138.0	30351.0
190	3500049.0	7612.0	230977.0
200	31515.0	5369.0	77591.0
210	54997.0	5485.0	41081.0
220	19617.0	10240.0	51250.0
230	21148.0	18303.0	84712.0
240	23369.0	15793.0	43886.0
250	13748.0	12222.0	44861.0
260	26907.0	18236.0	37697.0
270	11021.0	10036.0	26762.0
280	7283.0	8299.0	20215.0
290	6877.0	8331.0	18630.0
300	9845.0	6922.0	29188.0
310	8199.0	6673.0	19562.0
320	6621.0	8010.0	18049.0
330	13336.0	12137.0	32067.0
340	13595.0	9649.0	32865.0
350	11792.0	14701.0	60589.0
360	7193.0	10485.0	18521.0
370	5863.0	7523.0	15813.0
380	7956.0	8309.0	25933.0
390	5744.0	8101.0	16856.0
400	6363.0	11027.0	24278.0
410	11440.0	8312.0	14603.0
420	9797.0	8509.0	17445.0

430	5214.0	11239.0	44239.0
440	10030.0	8943.0	11619.0
450	10033.0	13210.0	12845.0
460	15759.0	12029.0	23057.0
470	24516.0	12521.0	21292.0
480	4575.0	9473.0	13921.0
490	7885.0	12265.0	12556.0
500	8426.0	9846.0	10805.0
510	6394.0	12756.0	12542.0
520	8445.0	10974.0	14738.0
530	6904.0	12854.0	9978.0
540	6359.0	10387.0	11774.0
550	6232.0	13120.0	11028.0
560	7914.0	11613.0	12521.0
570	6600.0	13076.0	9861.0
580	9830.0	13803.0	10104.0
590	6392.0	11299.0	11369.0
600	8801.0	14112.0	10832.0
610	6464.0	14027.0	16991.0
620	10214.0	11936.0	12547.0
630	8128.0	15204.0	9428.0
640	7513.0	23195.0	10992.0
650	12280.0	13135.0	11096.0
660	6464.0	14928.0	8949.0
670	6985.0	15006.0	9115.0
680	4173.0	15342.0	9111.0
690	10895.0	15745.0	9950.0
700	7326.0	13752.0	10471.0
710	6048.0	13065.0	11111.0
720	7303.0	13816.0	10309.0
730	3786.0	16014.0	8410.0
740	12960.0	15944.0	9294.0
750	7914.0	16352.0	8736.0
760	9992.0	16811.0	8886.0
770	2483.0	16756.0	9118.0
780	5066.0	17403.0	8915.0
790	3719.0	16763.0	9530.0
800	3652.0	17048.0	10441.0
810	13264.0	20867.0	15844.0
820	4226.0	17849.0	10968.0
830	4359.0	16562.0	13024.0
840	3434.0	17702.0	10362.0
850	3585.0	18283.0	9148.0
860	3239.0	18500.0	9441.0

870	5711.0)	18286.0		9056.0
880	10080.0		19074	.0	11159.0
890	3461.0)	19245.0		8716.0
900	8676.0)	19213.0		29018.0
910	8329.0)	21207.0		11852.0
920	3897.0		19505.0		10448.0
930	2975.0		19846.0		8467.0
940	4019.0		19317.0		8792.0
950	2383.0		20585.0		9776.0
960	3236.0		20024.0		7483.0
970	2651.0		20020.0		11339.0
980	14227.0		20671	0	9213.0
990	1514.0		20335.0		15951.0
1000	3326.0		20434.0		7931.0
#n	lucky_num	lucky_prob	unlucky_num	unlucky_prob	
10	2	0.0	6	0.2	
100	12	0.03	3	0.11	
500	8	0.064	12	0.092	
1000	7	0.056	13	0.092	